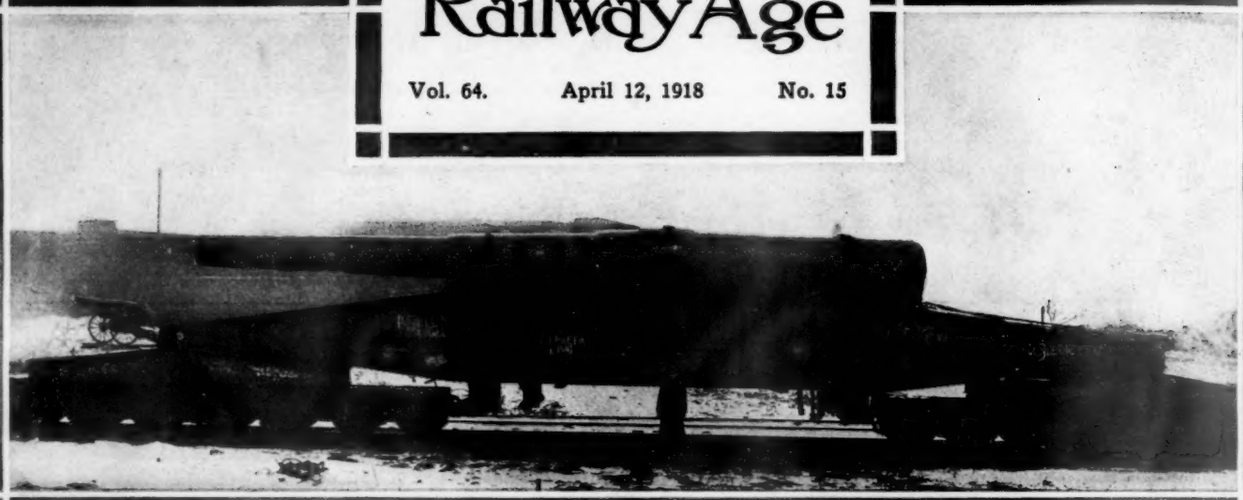
Railway Age

Vol. 64. April 12, 1918 No. 15



"Overhere." One of Our Own Big Gun Cars. Photo from Press Illustrating.

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EDWARD A. SIMMONS, *Pres.* L. B. SHERMAN, *Vice-Pres.* HENRY LEE, *Vice-Pres. & Treas.* M. H. WIUM, *Secretary.*

CHICAGO: Transportation Building. CLEVELAND: Citizens Building. WASHINGTON: Home Life Building.

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ROY V. WRIGHT, Managing Editor.

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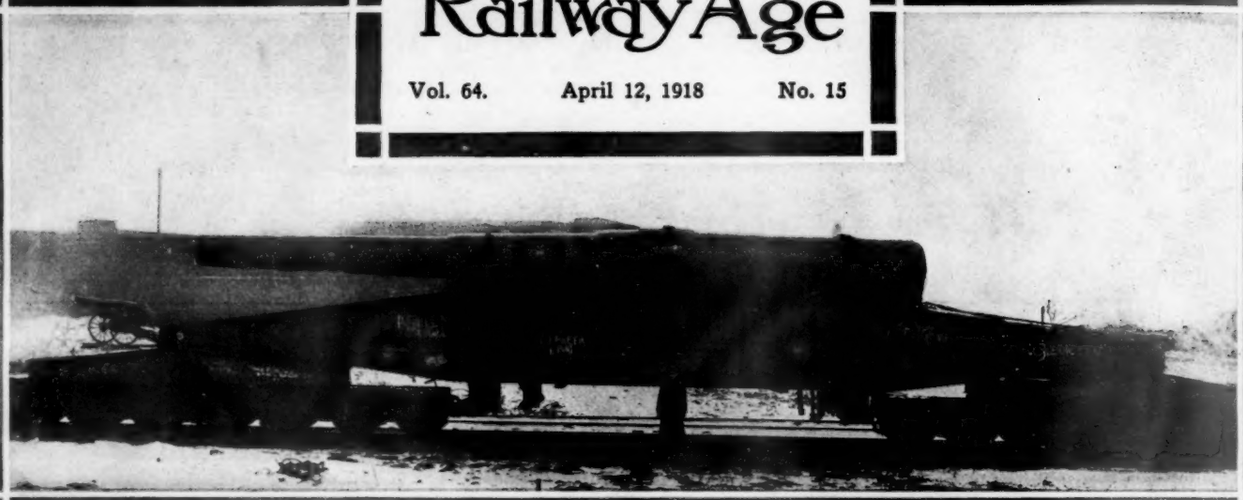

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EDITORIAL

Railway Age

Transportation of Railway Coal

Francis S. Peabody, chairman of the Peabody Coal Company, has written for the *Railway Age* a brief but important article, which we publish elsewhere in this issue, on the transportation of coal for railway use during the period of government control. Mr. Peabody was formerly chairman of the Committee on Coal Production of the Council of National Defense, and is one of the largest coal operators in the United States. He worked out for the Railroads' War Board a zone system for the distribution of coal for commercial and domestic use which was the basis for the zone system which has been adopted by the Fuel Administration. The railways are very much the largest consumers of coal. Mr. Peabody estimates that they use one-third of all that is produced in the country. Railway men need hardly be told that under the competitive system of railway operation there was a large waste of transportation in the handling of coal for the use of the roads themselves. This was mainly due to the fact that each road sought to get for itself as large a part as possible of each haul of coal intended for its use because this tended to swell its own earnings and at the same time kept down the amount of freight charges it had to pay, directly or indirectly, to other roads. This system natural but expensive under competitive operation, is needlessly expensive and wasteful of transportation under unified operation. The remedy, Mr. Peabody contends, is a zone system of production and distribution similar to that adopted for commercial coal. His suggestions are earnestly recommended to the consideration of the Railroad Administration and the managers of the individual railways.

Standard Locomotives Will Mean a Waste of Material

The waste in iron and steel that will be occasioned by the use of standard locomotives amounts to such a large sum that it must be given serious consideration, particularly when this material is in such demand for purely war purposes. In the last week's issue of the *Railway Age* attention was called to this fact on page 843. The study has been carried further and the requirements for Mikado, Santa Fe, Mallet, Pacific, Mountain and switching types of locomotives last year were to be fulfilled with the proposed standards, of the weights given by Alba B. Johnson in a paper on the Railroad Administration's Motive Power Problems, published elsewhere in this issue, there would be over 25,000,000 lb. more of locomotive material used than was used last year. The requirements this year will undoubtedly be twice those of last, and it can be safely said that if standard locomotives are adopted, 50,000,000 lb. more of iron and steel will be used than would be necessary if the roads were permitted to order locomotives best suited for their requirements. Based on a cost price of 15 cents per pound, this means that the increase in the cost for locomotives this year would amount to some $7,500,000. Can the Railroad Administration afford such extravagance? Is there any excuse for such extravagance, particularly when the adoption of standard locomotives will give many roads power which is unsuitable for their conditions and power which they are not prepared to maintain? Will any slight increase in the output of the locomotive builders warrant any such increase in the cost for locomotives?

Express Your Views on Standardization

The representatives of the *Railway Age* have invariably found when talking with men conversant with locomotive design and operation that there is a distinct feeling against the adoption of standard locomotives for all the railroads in this country, particularly at this time. So general is this feeling that it is beginning to appear that the director general has not been getting the consensus of opinion on this very important subject. The railroad men particularly seem to hesitate to speak their minds. Every interview on the subject is closed with an admonition from them—"Now don't quote me. I am working for the government and I intend to be a good soldier." They cannot better perform their duty to their country than by doing what they can to prevent the Railroad Adminisration from making a mistake which is so full of disastrous possibilities. It is the duty of every railroad man who knows, to speak through the most direct channel he has—either through the regional directors or the standardization committee,—and give his honest and just opinion on the practicability of standard locomotives. Alba B. Johnson, president of the Baldwin Locomotive Works, in a paper before the U. S. Chamber of Commerce, which is published elsewhere in this issue, has availed himself of an opportunity of saying what he thinks on standardization. He says: "It may be said that the workman who is responsible for the best workmanship should be entitled to the selection of his own tools, and similarly, that the railroad manager who is responsible for his record of efficiency and economy, should be permitted the widest discretion in selecting the locomotives which he regards as best fitted for the conditions of service upon his line." And further: "Thus, instead of simplifying the problem of locomotive maintenance, the introduction of government standards would complicate it." He closes his discussion with the admonition that: "Especially should this (standard locomotives) be considered most carefully when the world-wide danger of this war is upon us." There are other men as well able to speak on this subject as is Mr. Johnson—men in the railroad field, who know just what standard locomotives will mean to them. Let them speak before it is too late!

Ameliorative Words from the Bench

An interpretation of the Hours-of-Service law by the "rule of reason" instead of on the basis of the strictest possible construction, is one of the unusual things recorded in our Court News column this week. It is in a decision by Judge Buffington in the United States Circuit Court of Appeals at Philadelphia. The engineman and fireman of a helping engine had a good deal of time off between runs and the judge suggested that now, when everybody is in duty bound to work to his utmost to win the war, there ought to be some reasonable way in which this rest-time should be allowed for. Whether or not this view will be sustained, under the cold scrutiny of the full bench of the higher court, we do not know. Indeed, the declaration is perhaps to be classed only as an *obiter dictum*, and so of only temporary interest; but it is at least a refreshing variation in the dreary and unending succession of strict constructions by which, dur-

ing the past dozen years, the courts have converted the rules of freight-train running into a petrified strait-jacket, in which no one has a chance to breathe. In essence, the controversies over hours of service are only a part of the campaign of the brotherhoods for higher pay; but, nevertheless, every airing of the subject helps to impress the fact that every railroadman's duty at the present time is to put forth his best efforts for efficiency, whether his day's work is done in 8 hours, or is scattered over 18 hours. His own health, physical and mental, as related to his personal efficiency, is the only justifiable limitation. Another significant *obiter dictum* of this decision is that wherein the judge says that the Interstate Commerce Commission, instead of prosecuting the railroads in the courts for their infractions of laws which in some respects are almost unworkable, ought to formulate and prescribe reasonable rules under which the laws could be complied with according to the normal dictates of common sense. What could be more rational?

The Transverse Fissure Problem

THE DETERMINATION of the conditions leading to the development of interior transverse fissures in steel rails has proved one of the most baffling problems with which railway men and metallurgists have been confronted for many years. Although brought prominently to light in the investigation of the Lehigh Valley wreck at Manchester, N. Y., in 1911, little really definite information has been developed regarding the causes of this type of rail failure, in spite of the fact that it has been given close study by many rail experts since that time. However, the attention which is being given to this problem, and the data which are being collected have demonstrated the fallacy of certain theories that have been advanced and are narrowing down the range of possible causes and thereby bringing nearer the final solution.

The most recent contribution to this subject is the paper by James E. Howard, presented before the American Institute of Mining Engineers in New York on February 20 (abstracted in the *Railway Age Gazette* of November 30, 1917) and the discussions of this paper, several of which are published in part on another page in this issue. In his paper Mr. Howard repeats the conclusion advanced frequently in his reports to the Interstate Commerce Commission that transverse fissures are fatigue fractures which may develop in rails which are structurally free from any known defects. In other words, he believes that they are the result solely of service conditions. In this position he is supported by the manufacturers, but opposed by railway men, and this line of cleavage was particularly evident in the discussion at New York.

Representatives of the manufacturers have advocated decreasing the loads to which the rails are subjected, or increasing the section of the rail. To the first suggestion railway men reply that it is impracticable, while maintaining that the necessity for the second has not yet been demonstrated. That some of the manufacturers are alive to the importance of the problem is indicated by the statement of a representative of one of the large steel companies that his firm is planning to build a machine in the near future which will test full sized rails to determine the effect of section, chemical composition and methods of manufacture on the ability of the rails to withstand the stresses to which they are subjected in track.

In support of their contention that transverse fissures are not fatigue fractures arising primarily from the overstressing of the rail in service, but arise from defects originating in the mills, a number of the railway men presented data to show that transverse fissures have occurred in rails which have been subjected to very limited service, while they have not been found in other rails which have carried a very heavy traffic; also this form of failure is more prevalent in rails secured from some mills than from others and certain heats show many more failures than other heats from the same mill.

While transverse fissures are relatively few, measured in terms of the total number of rails in track, as pointed out by several railway men, the inherent possibility of a serious accident resulting from a failure is so great and the probability of detection is so limited that a study of this subject warrants the closest attention in order that the causes may be determined and the conditions leading to the development of this form of rail failure in the mill and in the track may be removed.

George A. Post and the Railway Business Association

THE TWO MOST IMPORTANT EVENTS which took place at the meeting of the Railway Business Association in Chicago on Monday were the announcement of the fact that George A. Post intends to retire as president of the association and the reference to the present executive committee of the duty of reorganizing the association and appointing its future officers.

Mr. Post was the father of the association. He has been president of it ever since its organization. Its principal purpose in the past has been to promote good relations between the railways and the railway supply companies and to educate public opinion and public officials regarding the railway question. For the leadership of the association, while seeking to accomplish these purposes, Mr. Post has shown that he possesses an excellent equipment. He is a public speaker of rare ability. He is a diplomatist of consummate tact. While always willing to lead, he has always been equally willing and even anxious to take counsel with and be guided by the judgment of his associates. The association under his presidency has done well the things it set out to do. Recently new conditions have developed in both the railway and railway supply business. The railway supply business has been confronted by entirely new problems. Mr. Post has never rendered such able and valuable service to it as he has within recent weeks in presenting the point of view, the rights and the problems of its members to Director General McAdoo and other officers of the Railroad Administration at Washington.

The new problems which government control of the railroads have presented to the railroad supply business, together with Mr. Post's impending retirement from the presidency of the Railway Business Association, have made clear the necessity for greatly broadening the scope of this organization and reorganizing it. The association at its meeting in Chicago adopted a change in its constitution, delegating to its executive committee the determination of the scope of its work and the way it should be done in the future and the task of working out the reorganization.

This sweeping delegation of power gives to the executive committee a very important duty and imposes on it a very heavy responsibility. The way in which the executive committee performs its duty and discharges its responsibility may largely shape the entire future of the railway materials business in this country.

In every body of men there always are some who believe in the use of conservative methods and some who believe in the use of aggressive measures. The thing which makes an efficient and useful organization is the combination in judicious proportions of conservatism and caution on the one hand with aggressiveness and courage on the other. The Railway Business Association desires and will need the generous, whole-hearted support of all the manufacturers of and dealers in railway materials who have rights to be protected

and legitimate interests to be promoted. To form an organization which will secure the support of all these interests and which will protect and further their interests while at all times recognizing and promoting the rights and interests of the public also, is the problem and the opportunity of the executive committee.

Government control has raised the new problems with which the railway materials concerns are now confronted. Government ownership would be a menace to the rights and welfare of the entire railway materials business. A broad view of the situation should be taken and it should be handled cautiously but vigorously, diplomatically but courageously.

Two Great Industries—An Analogy

THE GOVERNMENT, having assumed control of railway operation, and guaranteed the net return of the companies, has become responsible for railway operating expenses. The prices paid for equipment and supplies enter into operating expenses. Therefore, the government naturally wishes to avoid paying excessive prices. It ought to do this. It is not only to the interest, but it is the right, of the public that the railways shall be operated, under government control, as economically as is consistent with the rendering of service appropriate to present conditions, and with the payment of reasonable wages to labor and reasonable prices to the concerns from which equipment and supplies are bought.

But experience in the regulation of railway rates has shown that the word "reasonable" is susceptible of widely varying interpretations. To owners and managers of railways "reasonable" rates have meant rates high enough to keep the companies in a prosperous condition and enable them to raise sufficient capital adequately to develop their facilities. To most of the regulating authorities "reasonable" rates have meant the lowest rates that could be made which the courts would not hold confiscatory. The latter theory has prevailed in regulation, and in consequence we have seen numerous railways reduced to bankruptcy; capital frightened away from the transportation business; and both the extensive and intensive development of the railways almost entirely stopped. We have seen the railways, in the midst of the greatest of all wars, become unable to finance their requirements or adequately serve the government and people; and we have seen it become necessary, as a war measure, to suspend the entire system of regulation and to guarantee the financial returns of the railway companies.

In view of our experience with government regulation of railways there need be no surprise that the railway supply companies became filled with suspicion and apprehension when officers of the government Railroad Administration begin to suggest the elimination of patents and royalties in the sale of their goods, to ask to see their cost accounts, to inquire how large their capitalizations and investments are, and what percentages of profit they have been making. Nor is it surprising that the supply companies are not restored to a sense of complete security when officials of the Railroad Administration give assurances that the government will be fair in dealing with them.

They recall that the railways have always been given assurances from official sources that they would be fairly treated. In most cases, these assurances have been sincere. Probably most of the regulating officials honestly believe today that the railways always have been fairly treated, and that the cessation of railway development with the consequent acute congestions of traffic and demoralization of business, have been due to causes other than regulation. But business men and the public know that the kind of regulation which has been applied to the railways has been the chief cause of these conditions. The railway supply concerns have only too good reason to know it; and with the disastrous experience of their customers, the railways, so fresh in mind, they naturally become greatly disturbed when they think they see government control beginning to assume toward their business an attitude similar to that which government regulation began to assume some years ago toward the railroad business.

The Director of Purchases in the Railroad Administration is John Skelton Williams, controller of the currency. Nobody has ever described the destruction of railroad credit more graphically, or stated the reasons for it more forcibly and accurately than Mr. Williams did in a letter which he wrote to the Interstate Commerce Commission, and which was published in the issue of the *Railway Age* for November 16, 1917, page 891. As an experienced business man and an important government officer Mr. Williams saw very clearly what the destruction of the credit of the railways and the interruption of their development meant to the country. He also saw clearly that what had caused these things was the unjust and excessive reduction and limitation of profits in the railroad industry.

Mr. Williams can hardly fail to see that similar reduction and limitation of profits in the railway supply business must and will have similar effects upon that industry; and that it is impossible to arrest the development of this or any other large industry without harmful effects upon the entire country. Patriotism forbids that any class of men or concerns should raise their prices excessively and practise profiteering during the war. These things the government should prevent. But patriotism does not require that concerns engaged in any essential industry shall forego normal, reasonable profits during the war; and certainly no essential industry should be singled out from all others, and required to do this.

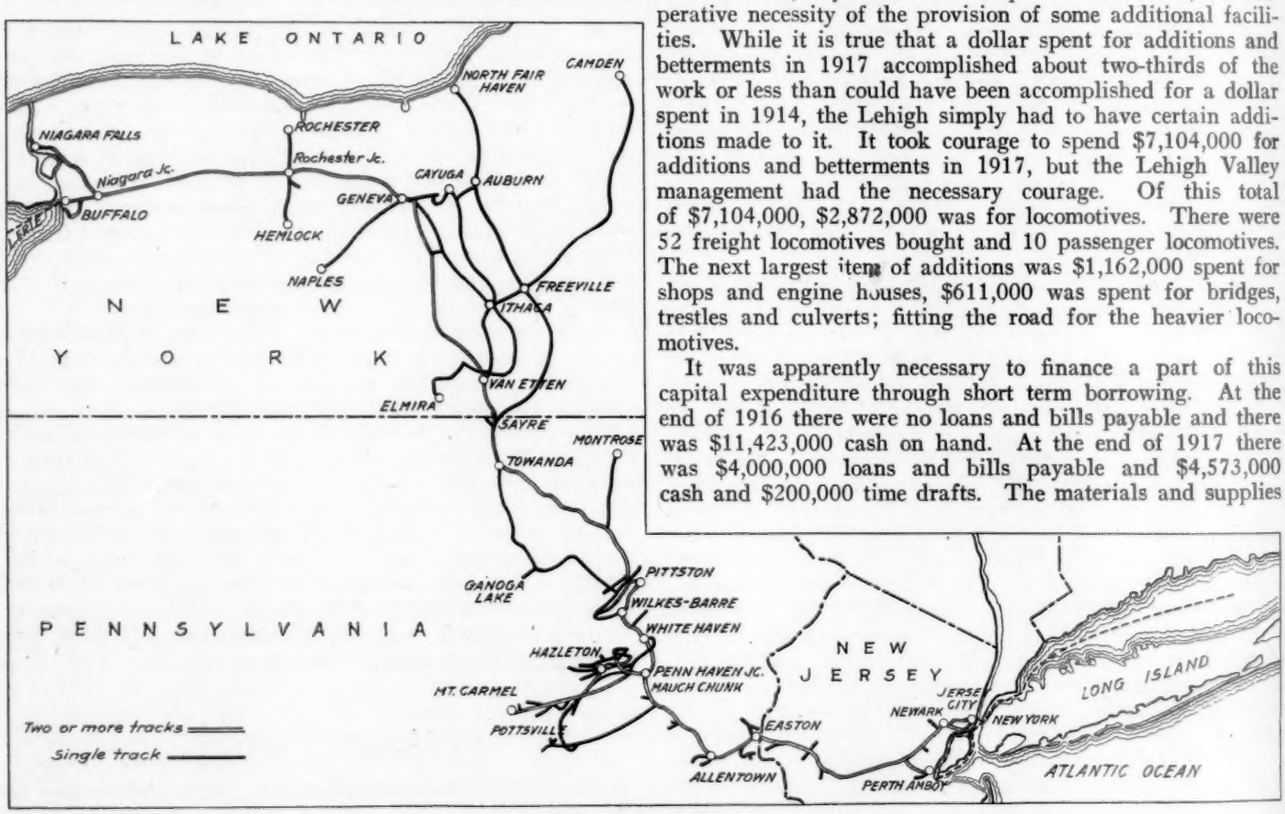
It has been pointed out many, many times, with reference to the railroad business, that reasonable profits, from the standpoint both of the welfare of the companies and the country, are profits which will maintain the industry in a healthy condition and cause it to grow sufficiently to meet the increasing demands of the country upon it. Exactly the same thing is true of the railway equipment and supply business. This argument, with respect to the railroad business has fallen on deaf ears, and today the nation is paying for its mistakes in dealing with the railways, and paying dearly. Let us hope that it will not have to be said in future years that government control initiated a policy as ruinous to the railway supply industry as government regulation has proved to be to the railway industry.

Lehigh Valley

THERE WAS LESS CONGESTION on the Lehigh Valley in 1917 than in 1916. In fact, it was one of the few eastern roads which, in 1917, was not at one time or other pretty badly tied up. A remarkably good showing in operation was made. The train load in 1917 averaged 102 tons more than in 1916. The 1917 average for all freight was 778 tons. Carloading was considerably better, the average per loaded car being 29.10 tons in 1917 as against 26.64 tons in 1916; an increase of over 9 per cent. Whereas in 1916 the Lehigh Valley had a debit balance of $512,000 for hire of freight cars, there was a credit balance of $195,000 in 1917. The Lehigh Valley should, under normal conditions, have a credit balance for hire of freight cars; it is one of the roads which have followed the policy of buying a liberal supply of cars and the situation that arose in 1916 was brought about by the inability of the Lehigh Valley to get rid of other companies' cars which had been sent loaded on to its line. As an instance of this, large equipment orders for Russia were shipped to the Lehigh Valley and had to be held under load for a long period of time. Eventually, the cars were unloaded where they stood and released for service, but this long delay ran up the per diem to an

abnormal extent. In the matter of getting coal shipments through, the Lehigh Valley made a most creditable showing in 1917. The road was never, during the entire year, stopped to coal shipments.

The gain in train loading and car loading, the freedom from congestion, the successful efforts to keep coal moving, are all the more creditable because of the almost unbearable labor conditions which existed for the Lehigh Valley and, of course, also for other roads in its territory. The expenses ran up to an abnormal extent. Transportation expenses amounted to $23,343,000, an increase of $5,767,000 over 1916; while the increase in operating revenues was only $4,499,000; the total operating revenues in 1917 being $53,358,000. The Lehigh Valley's 10 per cent dividend calls for $6,061,000 and, had it not been for the declaration of a $2,398,000 dividend (a dividend of about 25 per cent) on the Lehigh Valley Coal Company stock, which the Lehigh Valley Railroad owns in its entirety, the railroad company would not have fully earned its dividends. The net income, after including the coal company dividend and paying fixed charges, etc., available for dividends, were $7,152,000 in 1917, and in 1916, without the inclusion of any dividends on the coal company's stock, was $7,828,000.



The Lehigh Valley

Some conception of the difficulties under which the management worked may be had from the fact that 2,108 new men were hired as locomotive firemen, although the normal force was but 1,343 and 3,123 new trainmen were hired to maintain a regular force of 2,404. The increased cost of fuel alone amounted to $2,036,000.

As a result of the increase in freight rates granted by the Interstate Commerce Commission on June 27, 1917, the average ton mile rate on merchandise freight was 0.017 cents, that is seventeen one hundredths of a mill greater in 1917 than in 1916, and the freight rate increase netted the company less than $609,000.

During the early part of the calendar year, 1917, E. B. Thomas, who had been president of the Lehigh Valley since 1902, became chairman of the board of directors and E. E. Loomis, vice-president of the Delaware, Lackawanna & Western, was elected president of the Lehigh. Mr. Loomis was a man very much respected and liked by all classes of officers and employees on the Lackawanna, and the operating results obtained under the rather staggering labor conditions of 1917 would appear to indicate that he has already succeeded in getting a fine spirit of team work on the Lehigh Valley. As a matter of fact, it was largely intensive supervision on the part of the higher officers which kept the road open during the entire year. There were times during the year when general officers went out to larger yards and lived there for weeks on end.

The Lehigh Valley, at the beginning of 1917, was a well maintained eastern trunk line which, however, compared to either its neighbor, the Lackawanna, or its neighbor, the Erie, had had little spent on it in recent years for additions and betterments. The great pressure of business in 1916 demonstrated, beyond a further question of doubt, the imperative necessity of the provision of some additional facilities. While it is true that a dollar spent for additions and betterments in 1917 accomplished about two-thirds of the work or less than could have been accomplished for a dollar spent in 1914, the Lehigh simply had to have certain additions made to it. It took courage to spend $7,104,000 for additions and betterments in 1917, but the Lehigh Valley management had the necessary courage. Of this total of $7,104,000, $2,872,000 was for locomotives. There were 52 freight locomotives bought and 10 passenger locomotives. The next largest item of additions was $1,162,000 spent for shops and engine houses, $611,000 was spent for bridges, trestles and culverts; fitting the road for the heavier locomotives.

It was apparently necessary to finance a part of this capital expenditure through short term borrowing. At the end of 1916 there were no loans and bills payable and there was $11,423,000 cash on hand. At the end of 1917 there was $4,000,000 loans and bills payable and $4,573,000 cash and $200,000 time drafts. The materials and supplies account had increased from $3,563,000 to $6,229,000 but the increase in the value of supplies must account for a large part of this apparent increase. The same supplies, valued at $6,229,000 at the end of 1917, would have been valued on June 30, 1914, at $2,062,000 less.

The table shows principal figures for 1917 and 1916:

	1917	1916
Average mileage operated	1,443	1,444
Coal freight revenue	$20,402,226	$18,330,880
Merchandise freight revenue	22,705,556	21,478,421
Passenger revenue	4,894,990	4,598,212
Total operating revenues	53,358,446	48,859,909
Maintenance of way and structures	5,353,466	4,967,202
Maintenance of equipment	9,999,610	9,118,815
Traffic expenses	1,013,395	1,009,061
Transportation expenses (rail line)	23,343,165	17,576,066
Transportation expenses (water line)	798,534	870,079
General expenses	1,147,267	1,075,199
Total operating expenses	41,826,166	34,764,977
Taxes	2,126,626	1,804,812
Operating income	9,403,324	12,279,778
Gross income	14,480,480	15,267,045
Net income	7,151,859	7,827,771
Dividends	6,060,800	6,060,800
Surplus	1,091,059	1,766,971

Railway Business Association Discusses Problems

Urges Inviolability of Patent Rights. Commends Conduct of War and Asks Loyal Support for McAdoo

THE ANNUAL MEETING of the Railway Business Association was held in the Hotel LaSalle, Chicago, on Monday of this week, the entire day being given over to the business sessions. Owing to the very general interest in the problems of the railway supply field the attendance exceeded all previous records for similar meetings of this organization, over 300 railway supply men being present.

George A. Post, president of the association, called the meeting to order at 11 o'clock. In his opening address he dwelt upon the problems now confronting the railway supply industry, referring to the more important ones specifically and in considerable detail. He outlined the conferences which he has had with the director general and the director of purchases relative to their attitude towards the railway supply industry. Mr. Post urged those present to refrain from criticism of the administration for apparent delays and emphasized the fact that while "the name of the firm may have been changed, the same people are doing business inside as before."

Pierson Talks on Trade Acceptances

At the conclusion of Mr. Post's address the meeting adjourned to an adjoining room for lunch, during which Lewis E. Pierson, president of the Irving National Bank, New York, and chairman of the American Trade Acceptance Council, spoke on "Proper Remittances for Goods Delivered." Mr. Pierson advocated the use of trade acceptances in place of open accounts in credit transactions in the railway supply business. (This plan of handling credits was described in the *Railway Age* of March 1, p. 463.) Mr. Pierson emphasized the fact that the trade acceptance method is a plan for the handling of credits and is not concerned with cash transactions. Trade acceptances represent value and usability. Being self liquidating with definite maturities their absorption is accomplished readily and automatically. Mr. Pierson stated that experience has shown that trade acceptances are paid promptly on maturity, while open accounts are not. Detailed investigation has disclosed that there is probably no industry in the country in which 75 per cent of the open accounts are paid on or before maturity, while the cases in which trade acceptances are not paid when due are so rare as to be negligible. With open accounts, a careful business man must make provision for slow payment.

Mr. Pierson emphasized particularly the opportunity for the introduction of trade acceptances by the railway supply industry at the present time. He called attention to the fact that although the railways are commonly able to meet their obligations when due, it is very generally true that they extend their payments beyond the specified dates. Trade acceptance will overcome this for no road will desire to weaken its credit by failing to make provision to pay the acceptances at maturity. At the present time when the government is in charge of the operation of the roads, and when it is also actively promoting the Federal Reserve plan, of which the trade acceptance is a feature, and when the Railroad Administration and the Treasury department are under a common head, it would appear to be a most favorable time to introduce the trade acceptance idea among the railroads.

Frank Rhea Speaks on Foreign Trade Opportunities

Frank Rhea of the Bureau of Foreign and Domestic Commerce addressed the association at luncheon on the opportunities for the sale of American railroad supplies in foreign lands, and particularly in the Orient from which he recently returned after making a careful study of commercial conditions in that part of the world. The results of his investigations have already been covered quite exhaustively in the *Railway Age* of March 19, page 585, and the issue of March 22, page 697. In his remarks to the Railway Business Association he pointed out the great opportunity presented to that body to take a leading part in the development of foreign trade for American railway devices.

He was particularly emphatic in pointing out that foreign trade requires long preparation with deferred returns, and a most painstaking study of conditions peculiar to other countries. He stated that the United States would have to expect severe competition from other manufacturing nations, and mentioned in particular the careful and scientific preparation of the British to prosecute a vigorous campaign for commerce in the Orient at the conclusion of the war. The British, he said, had made foreign commerce a profession, and the best of their young men entered the field with the expectation of spending their whole lives in it.

He described the various methods in which American railway supplies have been marketed in the Orient in the past, which have already been outlined in the articles above mentioned in the *Railway Age*. In this connection he stated that he found the Locomotive and Car Builders' dictionaries to be an important factor in promoting American railway supply materials in Australasia and the Far East. He also stated that American railway and technical journals circulated in those countries and were held in high esteem.

One of the peculiarities of the Oriental market which he brought out is that the distance from the sources of supply makes it necessary for railroads to anticipate their requirements far ahead. New Zealand lines, for instance, contract for materials and supplies in some instances three years ahead. This condition, he pointed out, made it much more serious for those countries to change standards, and hence the life of equipment there was much longer than in this country.

Foreign business cannot be successfully carried on by individual companies. Competing American firms will find it advantageous to combine for purposes of foreign trade expansion, and in some instances may find it advantageous to pool their patents. The government can give some practical assistance to American manufacturers by selecting and tabulating information received from consuls in other countries, but at best the work of the government is more or less academic; practical details of definitely determining the requirements of foreign markets and painstakingly fulfilling them, will have to be worked out by the railway supply industry.

Although there is some truth in the statement that "business follows the investment," Mr. Rhea pointed out that a large proportion of the foreign roads are Government-owned, and therefore not tied by financial strings, while many privately owned lines are paying off their indebtedness and thereby becoming free to make their purchases wherever they please. American products stand high in the estimation of foreign countries, and only need intelligent marketing to win a large foreign trade. In this connection he mentioned the Chinese lines which are in great need of new equipment and new facilities. This, he said, could not be secured because of the difficulty of financing new purchases, and he suggested that American manufacturers might introduce the equipment trust scheme in that country with success.

Mr. Rhea is strongly of the opinion that a development of

foreign trade and the building up of a commercial fleet to carry it, will prove one of the strongest arms of our national defense in the future. Our entrance into that field, however, will demand our best efforts and our whole-hearted attention.

Afternoon Session

A large part of the afternoon session was devoted to a discussion of the policy of the director general with reference to railroad purchases. On this subject President Post amplified his remarks during the morning session, based on interviews with Mr. McAdoo. At the inception of the standardization movement, Mr. Post said, there was considerable misunderstanding of the purposes of the Railroad Administration and many of the manufacturers gathered the idea that it would mean the use of only one or a few devices to the exclusion of competing supply companies. On the contrary, standardization means uniformity of dimensions and locations of devices, and does not exclude any manufacturer who is willing to conform to these requirements. He further pointed out that the director general's office will only concern itself with major purchases running into millions of dollars, whereas the regional directors will supervise purchases of medium proportions and the individual purchasing agents of the various railroads will continue to make smaller purchases, consisting in the main of current supplies bought from month to month and those materials which have a fixity of use on their lines.

In discussing the effects of standardization attention was called to the fact that even if orders were placed at the present time, several months would elapse before many manufacturers could change their patterns to conform with these new standards. The discussion closed with a brief consideration of the patent situation. In response to a request of the president for those men present to rise whose business rested largely on patent rights for which royalties had to be paid, it developed that a large number of those in attendance responded.

At the conclusion of the deliberations the Resolutions Committee, A. L. Humphrey, chairman, offered a number of resolutions which were passed by the organization. The first matter taken up was an amendment to the constitution providing for the insertion of a new Article II after Article I, as follows:

"The government of this organization shall be vested in and its policy determined by the general executive committee as constituted in accordance with the by-laws." Mr. Humphrey explained that the purpose of this amendment was to facilitate quick action under the present uncertain conditions, and to make possible the formulation of policies and plans befitting the association's expanding opportunities for service.

Supply Manufacturers' Liberty Loan Day

The second resolution offered called attention to the fact that about 50,000 men were reported by railway supply companies to be in the service of the United States and recommended that the thousands who remain behind should back up the colors by purchasing Liberty Bonds. The suggestion that the director general of railroads designate April 20 as Railway and Railway Materials Manufacturers' Liberty Loan Day, was heartily approved.

The loyal support of the association to the President of the United States in the performance of his difficult responsibilities of prosecuting the war was pledged anew, and the work of the director general and the railways was commended.

Resolutions of thanks to Lewis E. Pierson and Frank Rhea for their addresses were passed unanimously. All manufacturers of railway supplies were invited to join the Railway Business Association in order to profit by the joint activities of that body.

Progress and Patents

The most important resolution passed by the association was that relating to the patent rights of railway supply manufacturers. It reads as follows:

"With satisfaction we observe that the evident aim in constructing the government standard equipment designs and specifications was to admit a broad scope of interchangeable appliances. We welcome also the assurance by the director general that the purpose is to encourage during government control the demonstration and adoption of improvements not yet established. These are policies of progress. They will tend to preserve and stimulate the industrial enterprises whose occupation it is to achieve mechanical advance in transportation science. We earnestly commend to the director general's consideration the fact that a large proportion of these enterprises is founded upon patent rights and that an indispensable essential to preserving the enterprises themselves is to maintain unimpaired the normal status of patents. The owner of the patent who leases to a manufacturer has a contract which cannot be abrogated without his consent and which he may not be in position to abrogate. The royalties are the earnings of his genius. The enterprise which owns patents has for an asset, in some cases its chief asset, as a going business the right to protection against under-bidding by concerns whose overhead cost has not included the experimentation, demonstration, development and improvement of the device."

Resignation of Mr. Post

At the annual dinner it was announced that George A. Post, president of the Railway Business Association since its formation, would decline re-election. This occasioned the presentation of the resolution expressing the deep appreciation of the Association for Mr. Post's able and indefatigable efforts in its interests and the sincere regret of the organization that the pressure of his private business demands his retirement. The resolution reads in part as follows:

"It will be impossible to measure the obligation which is owed to Mr. Post by the group of industries interested in the Association he has so ably fostered during the twelve years of its existence. It was he who first drew for us the picture of the isolated industrial craft units, each in its community possessing latent influence, but none of them using that influence upon the common problem; the picture of those crafts then portrayed illustrated how they might become with a common center of action. To unite those unco-ordinated units, this far-sighted leader perceived, would mobilize their knowledge, their wisdom and their strength and through organization apply their energy to beneficial activity. The Association which resulted from that suggestion has amply justified the prophecy.

"Serving without salary, a condition which he regarded as essential to his influence, Mr. Post has devoted himself to this movement with a prodigality of self-sacrifice that seems incredible to those who find it difficult to make much smaller contributions of time and energy to similar movements. We deplore that any circumstance should deprive us of his leadership. We rejoice to know that this actual circumstance is another and imperative activity and not age or infirmity. To us, under whatever leadership, his past example and present wisdom will always be as a beacon protecting us from hidden rocks. With one voice we fervently pray for his health, long life, prosperity and happiness."

The passing of this resolution was followed by an ovation to Mr. Post. Letters eloquent of appreciation regarding Mr. Post's work were read from H. H. Westinghouse, G. M. Basford, Samuel Rea and Frank W. Noxon.

The Committee on Nominations and Organizations (A. H. Mulliken, chairman), recommended that the plan for the reorganization of the association and election of officers for the coming year be referred to the present Executive Committee for action later; this resolution was adopted.

Railroad Administration's Motive Power Problems*

The Development of the American Locomotive and the Possible Effects of Standardization

By Alba B. Johnson
President, The Baldwin Locomotive Works, Philadelphia, Pa.

THE HISTORY OF RAILROAD development has been one of continuous improvement in size and power and in perfection and economy of details from the beginning of locomotive construction in England and America until the present time. The Rainhill trials conducted on the Liverpool & Manchester in 1829 demonstrated the practicability of Stephenson's "Rocket," which, in its essentials, combined most of the features of present day locomotives.

The Rocket and Old Ironsides, Mr. Baldwin's first locomotive, weighed about five tons each, and were scarcely larger than the motor trucks now commonly used on highways. It would be without the scope of this paper to trace the development of locomotives from Old Ironsides of 1832, to the latest triple compound Mallet, or the most approved Decapod of the present day. The 85 years which have elapsed since the successful trials of the John Bull on the Camden & Amboy; the DeWitt Clinton on the Mohawk & Hudson and the Old Ironsides on the Philadelphia, Germantown & Norristown, have been years of constant experiments and improvements, whilst corresponding experiments and improvements have been going on concurrently in the various countries of Europe. Each railway has endeavored to excel others in efficiency and power, and each locomotive builder has striven to excel his competitor.

Development of the Locomotive

Viewing the whole progress of locomotive development, one general fact is apparent; in years of excessive business the time and thought of railroad men have been so fully occupied with the movements of traffic as to leave little opportunity for the problems of improving methods and appliances. Waves of depression follow successively waves of expansion, and during years when earnings are small and the necessity for economies is urgent, much attention is concentrated upon problems of improvement. The result has been that each period of business depression has been followed by new developments in the art of transportation. It would not be difficult to trace the periods of minimum traffic which resulted in the changes in track from the 40-lb. to the 60-lb., the 60-lb. to the 80-lb., and the 80-lb. to the 100-lb. rail and now even to the 130-lb. rail; in the car, from the 20-ton to the 30-ton, the 30-ton to the 40-ton and the 40-ton to the 50-ton and 70-ton capacity and now in some cases to the 100-ton capacity; and in the locomotive from the 15-in. by 24-in. 30-ton locomotive of the '70s to the 17-in. by 24-in. 40-ton locomotive of the '80s; the 20-in. by 24-in. 60-ton locomotive of the '90s to the 22-in. by 28-in. 100-ton locomotive of the first decade of this century; and the development of the larger types of Mikado, Santa Fe and Mallet—ranging from 300,000 to 500,000 lb. weight—which have been built during the present decade.

The process of development has in each instance been somewhat as follows. It has been found that the readiest means of increasing revenues is to increase the carrying capacity of cars, so that a greater amount of revenue freight can be hauled for each unit of car mileage. The increase in car loading reduced the number of cars which could be hauled per train, and resulted in a demand for larger locomotives capable of hauling no less a number of cars than before. This found its limit in the capacity of rails and bridges to sustain the increased axle loads. Again and again rails and bridges have been replaced to permit of the constantly increasing axle loads from 10 to 15 tons, from 15 to 20, from 20 to 30 and finally to about 35 tons, the present maximum axle load. If we stop to consider for a moment what this has meant to the industry of the country, we will realize that each change has involved practically the total replacement of rails, bridges, cars, and locomotives on existing lines throughout the whole country, and each step has resulted in a reduction of the cost per ton mile until the cost of transportation in the United States has gone far below that existing in any other country. In the majority of instances each contract for cars and locomotives has been made to new specifications, and in comparatively few instances have existing contracts for either cars or locomotives been duplicated without incorporating the changes which have resulted from the combined causes of experience and competition.

Standardization of Locomotives

Standardization has been an ideal much talked of but never realized in actual practice, because standardization implies the crystallization of present practice as the practice of the future, and means that no further changes shall be made as the result of experience or invention. Carried to its logical extreme, the adoption of inflexible standards at any time during the history of locomotive development would have involved the stoppage of progress at that point. Many attempts have been made to fix standards for particular railroads and groups of roads, but in every instance these have given way to the urgency of keeping pace with other roads which have not attempted to bind themselves with the iron bands of standardization. The practical result of such attempts has been that those lines most rigidly adhering to their standards have lagged behind their competitors.

The result of more than eighty years of experience has convinced railroad men that the most advantageous field for standardization is in details rather than in the complete locomotive or car as a unit. Most of the advantages sought through standardization have been obtained by unifying or standardizing the design of various parts common to a considerable number of classes. Whilst the American Railway Master Mechanics' Association and the Master Car Builders' Association have perhaps accomplished less in procuring the adoption of complete standard units than advocates of standardization would have liked to see, they have done splendid service to the transportation interests of the country by the adoption of the numerous standard details, by their discussions and by their interchange of experiences. It may be said that their accomplishments have been as great as it was humanly possible to achieve under the conditions of diversity of managements, diversity of ideas and the necessity of constantly keeping abreast of the march of improvement. American railroad men need have no fear of comparison with other countries, either in the practical common sense which has been shown in the conservative encouragement given to improvements in en-

*Read before the United States Chamber of Commerce meeting at Chicago, Ill.

gineering practice, or in the reductions which have been achieved in the cost of transportation. They have been quick to adapt to American conditions improvements which have been worked out abroad; they have maintained the suitability of American locomotives, not only for American conditions of operating, but they have also maintained the adaptability of American standards for all countries where the conditions approximate to those existing in the United States, thus developing a large foreign trade in railway equipment and materials.

War Brings New Conditions

The participation of the United States in the world-war has brought about new conditions. A mass of legislation and regulation which had accumulated during years of peace and which was predicated upon certain popular fears and prejudices resulted in the failure to allow increase in revenues corresponding to increased costs. The necessities of the war soon demonstrated that these regulations which prevented co-operation by insisting upon competition, did not make for efficiency, but prevented many measures of improved service which the railroad managers were themselves eager to adopt but which had been made prohibitive. In order at a single stroke to untangle this situation, the government of the United States decided that it was wise to assume control of transportation by placing all the principal lines in the control of a director general of railways, and to operate the roads as a unit during the period of the war and for a fixed time thereafter. For the first time in the history of the country all of the railroads became subject to a unity of management and to a unity of control in their purchases. For the first time it became practicable to adopt and to enforce standards to a large extent. The very forces of competition had brought about a uniformity of general dimensions and weights of locomotives for trunk line service. Inasmuch as all kinds of cars were being hauled indiscriminately over all railroad lines, there could be no reason why a diversity of details should exist amongst those belonging to different railroads. To a lesser degree, perhaps, these considerations apply also to motive power. If one type of locomotive could haul a given train across the continent to the west bank of the Mississippi river, there appeared to be no adequate reason why a locomotive of different type or different details should be required to haul the same train from the east bank where the grades and working conditions were not too divergent.

In the early days of railroading it was quite common for the same line to have different types of locomotives to haul its trains over different divisions of the road. The same conditions now exist upon a larger scale. Notwithstanding a certain amount of standardization of the locomotives on each road, there is a large diversity amongst different roads having practically the same operating conditions. The opportunity given to the director general of railways to unify the motive power of all railroads, was unique, and the conception a fascinating one. The work of preparing standard specifications and drawings was entrusted to a committee comprising eleven railroad officials who collaborated with representatives of the three principal locomotive builders. As the result of their diligent and continued work, twelve standard specifications have been agreed upon and recommended as follows, and their final approval is now under consideration. They are of the following types and weights:

Type	Axle load	Total weight
Mikado	55,000 lb.	290,000 lb.
Mikado	60,000 lb.	325,000 lb.
Santa Fe	55,000 lb.	360,000 lb.
Santa Fe	60,000 lb.	390,000 lb.
Mallet (2-6-6-2)	60,000 lb.	440,000 lb.
Mallet (2-8-8-2)	60,000 lb.	540,000 lb.
Pacific	55,000 lb.	270,000 lb.
Pacific	60,000 lb.	300,000 lb.
Mountain	55,000 lb.	320,000 lb.
Mountain	60,000 lb.	350,000 lb.
Switcher (0-6-0)	55,000 lb.	165,000 lb.
Switcher (0-8-0)	55,000 lb.	220,000 lb.

The tenders have been standardized with tanks of 8,000, 10,000 and 12,000 gal. respectively.

No one railroad will be compelled to order all of these 12 standards; even the largest trunk lines may find half that number sufficient.

Extent to Which Standardization Should Be Carried

A delicate and interesting question of policy is to what extent these standards should be confined to the essential elements of the locomotive, and to what extent they should be confined to its accessories. The committee wisely adopted the principle of defining only the essential locomotive, leaving a certain freedom to the railroads to maintain their standard accessories, and a certain freedom of competition among manufacturers of railway equipment. It must be borne in mind that the railway equipment business itself is a most important one, embodying as it does several hundred separate manufacturers, with invested capital running into the hundreds of millions and employing several hundred thousand men. These separate manufacturers have studied incessantly to improve their appliances and to reduce costs. Their productions are of two classes, first, those materials or devices which have become essential parts of locomotives, such as air brakes, tires, headlights, injectors, steam gages, etc., etc.; and second, those which are not strictly essential to locomotive operation but which contribute to efficiency and economy. Amongst the latter are such things as mechanical stokers, superheaters, feed water heaters, power reverse gears, etc. These devices are constantly shifting from the second to the first class. Most of those now universally conceded to be in the first class were at one time probationary. Many of those now rated in the second class are rapidly achieving recognition as essentials to be regarded as in the first class. To carry standardization to its extreme limit would involve a determination of the most desirable among many competing devices, and would destroy the market for all the others and throw their makers out of business. It would check the transfer into the first class of those items enumerated as of the second class and would also paralyze every effort toward the invention and introduction of new improvements.

The committee has wisely refrained from attempting a solution of these problems, and its further course with respect to them is yet to be ascertained. Some policy must eventually be adopted, however, either of leaving the railroads which are to receive and operate the standard locomotives, latitude to designate such specialties as in their experience have proved worthy of adoption, or for the director general of railways, through his advisers, to make a selection. The former would appear to be in every way the wiser course.

Standard Locomotives Will Complicate Repair Problems

I have stated above that the standard specifications have been recommended for approval. They have not yet been finally adopted, as a strong plea is made on behalf of the railroads similar in principle to that applicable to locomotive accessories, that each railroad should be allowed to continue to adhere to the standards already adopted. The choice of course involves the weighing of the respective advantages. It may be said for the railroads' contention, that under normal conditions locomotives are not shifted from one road to another, but are generally used continuously upon the same division to keep the traffic movement balanced, and are kept in repair continuously by the same shops. These shops are supplied with standard repair parts and the workmen are proficient in maintaining the repairs of these existing standard locomotives. To introduce a new government standard upon all lines as an entirely clean proposition would be simple

enough, but to introduce it on lines and conditions affecting an entire continent and already equipped is quite a different problem. It necessarily compels all lines to provide themselves with stores of repair parts adapted to the government standard locomotives. **Thus, instead of simplifying the problem of locomotive maintenance, the introduction of government standards would complicate it.*** These complications would last far beyond the period of government control and would continue as long as the railroad standard and the government standard locomotives operated side by side upon the same lines.

Railroad Managers Should Be Allowed to Choose Locomotives Best Suited to Their Conditions

It may be said that the workman who is responsible for the best workmanship, should be entitled to the selection of his own tools, and similarly, **that the railroad manager who is responsible for his record of efficiency and economy, should be permitted the widest discretion in selecting locomotives which he regards as best fitted for the conditions of service upon his line.*** If, however, it should be urged that the advantages of standardization to which the roads can work, would in the long run be sufficient to compensate for the disadvantages of present increased confusion, then some principle must be discovered by which standardization shall avoid the cessation, if not the extinction of improvements. Every improvement in some sense involves the destruction of standardization. It would be an evil day for American engineering and for American progress in the art of transportation, which would involve a policy of discouragement to new and useful improvements in the art. We should therefore look carefully before we leap, to make sure that we are not giving up the substance of continued growth in efficiency and economy, to grasp the chimera of standardization. **Especially should this be considered most carefully when the world-wide danger of this war is upon us.***

Electric Locomotive Development

Any paper upon the subject of railway motive power under the national administration would be incomplete which did not touch upon the remarkable growth and development of electric power transmission in transportation service during recent years. At the Chicago World's Exposition in 1893, the first electric switching lomomotive was shown suitable for industrial purposes, and tests were made of its hauling capacity in comparison with a steam switching locomotive of similar weight in which the advantage was shown to be decidedly in favor of the electric locomotive. Shortly thereafter the North American Company caused the construction, under the supervision of Sprague, Duncan & Hutchinson, of an electric locomotive for use on the Northern Pacific, but the failure of that company and the fact that it was far in advance of the general development of the times, caused its abandonment before it came into practical service.

Shortly after this the Baltimore & Ohio undertook the construction of its tunnels under the city of Baltimore and contracted with the General Electric Company for locomotives with large power to handle its trains through these tunnels for the purpose of avoiding smoke and gases. These locomotives proved to be highly successful, but it was several years after their construction before other electric developments succeeded. Meanwhile, however, there had been a continual growth in the adaptation of electric power to interurban trolley lines, to small industrial locomotive units and to mining and other underground problems. Then followed the application of electric power to the Hoosac Tunnel Line, the New York, New Haven & Hartford; the West Jersey & Seashore 65-mile line to Atlantic City from Philadelphia; the Long Island; and the Grand Trunk tunnel under the Detroit river. Nearly simultaneously the Norfolk & Western and Chicago, Milwaukee & St. Paul decided upon extensive installations of electric power, both of which are now completed and are showing marked success.

The necessity of avoiding smoke and gases in railway operations in cities soon induced the adoption of electrification for reasons entirely independent of any economies. The elevated lines in New York City were the first and were soon followed by the New York Central and the New Haven Lines, forced thereto by the operation of the tunnels to the Grand Central station. Then when the Pennsylvania decided upon the construction of its extensive system of tunnels to give a continuous line under and through New York City, the adoption of electric power was unavoidable.

The third cause for the introduction of electric power has been the necessities of suburban traffic in and about New York, Philadelphia and other cities. Practically all these electric railway enterprises have involved different sets of conditions and have resulted in a study of their peculiar problems which has worked out a motive power well adapted to each case. So large a volume of experience has now been gathered that it may be said that electric transmission of power to railway service has largely passed the experimental stage and the efficiencies predetermined are realized.

The question arises as to what is to be the future relationship between steam and electricity. Doubtless the electrification of suburban lines and the application of electricity to lines having great density of traffic will be financially justified, and as these grow in number and join themselves together, electric zones will be created in which it will be more economical to adopt electricity exclusively as the motive power.

Any question of rivalry between the steam and electric locomotive may be set aside. The problem is wholly an economic one, the only question being as to which is the more efficient and suitable for the particular conditions, and the consequent adoption of one or the other is dependent upon the geographical or other circumstances governing each case.

The introduction of electric locomotives by reason of the cost of installation must be a gradual one. The increase of efficiency and economy must be clearly shown before capital can be induced to make the necessary investment. As these advantages are conclusively shown, so will the development of electrification grow, but it would appear that the great transportation problem of the country as a whole, outside of the larger cities and their suburban territory, must for some time rely upon steam locomotion as its most available and economical motive power.

Money for Improvements Restricted

The motive power of the country is admittedly inadequate to the service demanded of it under the present war conditions. During the depression preceding the war there was a small surplus of power which, as should have been foreseen, would be absorbed in traffic with the first increase of activity. As a rule, railroads have purchased locomotives largely under the spur of excessive traffic and have abstained from purchasing during periods of reduced earnings. This is contrary to the economics of the situation. Enlargements of facilities should be made in times of depression, because, first, that is the cheapest time to do it; second, it is the most convenient time to do it; and third, it is the time when the managers can give most attention to doing it; and fourth, the employment of labor arising out of large railway purchases tends to mitigate the severity of a general depression. The reason the railroads have not done this since 1907 is, that under the regulatory policy which went

*The emphasis is ours.—EDITOR.

Photos from International Film Service.

Triple Wreck Near Amsterdam, N. Y., April 8, 1918

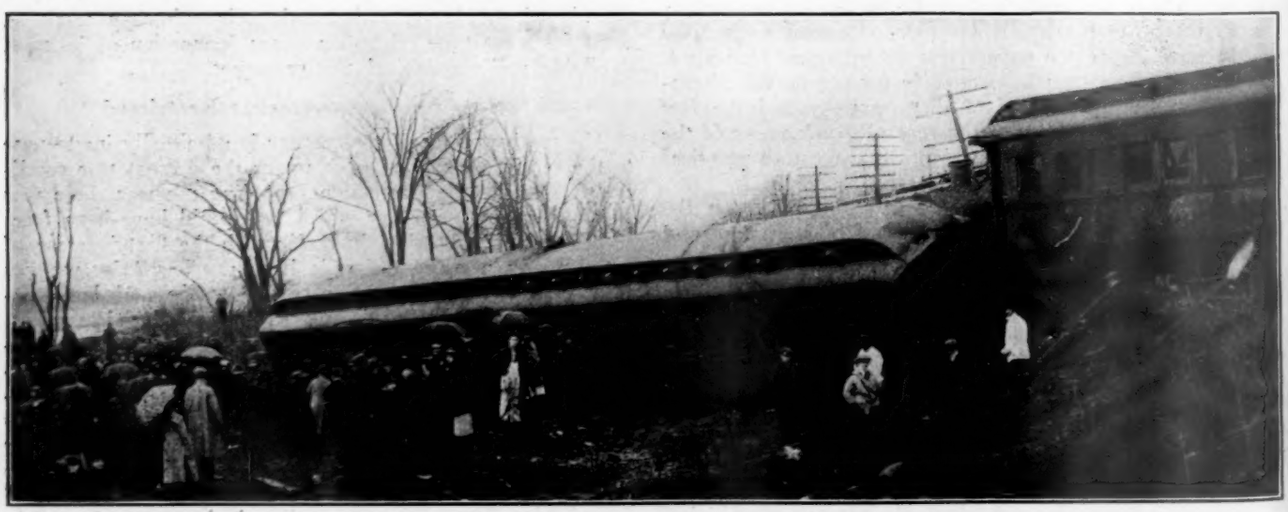
into effect at that time, railway managers have not been able to accumulate surpluses sufficient in their judgment to warrant bold construction in times of small earnings, and especially because future earnings have not been susceptible of approximate calculation even where the volume of traffic could be estimated in advance. Adequate provision of motive power, like adequate provision of other rolling-stock and other facilities, can only be assured when Congress places upon the functionary charged with the duty of regulating rates, the definite responsibility of making such rates as will yield earnings sufficient for thorough maintenance, for adequate improvements and sufficient to attract the capital necessary for providing additions and extensions.

Spectacular Wreck Near Amsterdam, N. Y.

THE EMPIRE STATE EXPRESS of the New York Central was wrecked at a point about 1½ miles west of Amsterdam, N. Y., and 35 miles west of Albany, on Monday, April 8, and its engineman, John R. Botts, was killed; but the passengers and the rest of the trainmen all escaped with their lives, though the train was running at full speed. This train, first established in 1891, and for some time the most noted fast long-distance train in the world, has been said never to have had a derailment or collision in which a passenger was fatally injured; and this statement appears still to be true. And the train has made this remarkable record of 26 years, while running for nearly the whole of its route over a four-track railroad, meeting (or passing) several times as many moving freight trains as would be met on a two-track road. And it is the fact that the road is four-track which makes this accident specially notable, for three trains were involved.

The first accident was to an eastbound freight. A car in this train was derailed by the breaking of a truck and several cars fell across the westbound passenger track. The Empire State Express (train No. 51) ran into this obstruction, and the engineman was killed and the fireman injured. The freight cars already blocked the northerly part of the roadway and the first two cars of the passenger train were thrown to the southward and across the eastbound passenger track, and one car lodged several rods south of the right of way. Into this obstruction, eastbound express passenger train No. 16 ran and its engine was partly overturned. The engineman and fireman were injured. The reports show that about 20 passengers in the westbound train were injured, but none seriously in the eastbound.

WILL BEAUTIFY SCENERY ALONG CHINESE RAILWAY.—The Empire Line, as the Peking-Hankow railway is known, is to be one of China's attractions to foreign travel, according to Dr. C. C. Wang, its enterprising managing director. A landscape gardener under Dr. Wang's direction is already drawing plans for a system of flower gardens and banks of shrubbery at the stations, and it is also intended to reforest the hills along the line so that the scenery everywhere will be attractive. Within a year or so Dr. Wang feels he will be able to get out an advertising folder that will attract the tourist traveler to a trip through the heart of China—*Oriental News and Comment.*



Eastbound and Westbound Passenger Trains Derailed by Obstructions Almost at the Same Moment

Railroad Traffic Activities Consolidated or Discontinued

IN ACCORDANCE with the general policy of discontinuing all competitive activities of the railroads, all traffic solicitation and most of the traffic advertising. Director General McAdoo has issued the following instructions to the regional directors, who, in turn, have issued them in circulars to the roads:

1. Discontinue the separate city freight or passenger offices where the public may be adequately served at the depot. This applies particularly to the smaller cities.
2. Consolidate or group all city ticket offices, placing the union office in convenient location where rental is reasonable providing sufficient space to properly accommodate the public.
3. Cancel all arrangements with tourist or other similar agencies for solicitations of passenger traffic or sale of tickets.
4. Discontinue all off-line traffic offices.
5. Employees released as result of above to be assigned to other duties to the extent possible. Some now employed in off-line offices will be needed by the local line to strengthen its traffic forces in order to properly care for the additional work which will result from the above changes.

The functions and services formerly performed by the off-line offices in protecting the needs of the public will be incorporated in the offices of the initial lines.

Separate off-line traffic offices were created by the various transportation interests on account of existing keen competition for passenger and freight traffic, and were primarily headquarters for soliciting agents who were stationed in all commercial districts for the purpose of protecting the interests of the carrier by whom they were employed. Now there is no competition, which eliminates need for solicitation by the individual carriers. The policy is stated to be one of efficiency with all possible retrenchment and economy consistent with protecting the best interests of the public.

The employees released from their present duties as a result of this, are to be assigned to other duties as far as possible, with the same roads. Some now employed in off-line offices will be needed by local lines to strengthen other traffic forces to properly take care of the additional work entailed upon the initial lines on account of this change. In making this readjustment, it is intended to work as little hardship as possible upon the employees concerned. Many of these men have been in the service of their respective lines for long periods, and their railroad insurance and pension rights will be protected.

It is announced that no community will be deprived of adequate sources of information and advice as to matters connected with passenger and freight service. It will be necessary for the lines directly serving each locality to see that their offices are manned and equipped to furnish the needed information and advice. This will include the issuance of through bills of lading, quotation of rates, passing reports of cars en route, advice to prospective passengers, and all other necessary information heretofore furnished by the off-line offices.

A circular issued by R. H. Aishton, regional director for the western roads, ordering the discontinuance of general advertising by the railroads, was noted in last week's issue. Similar orders have been issued by the other regional directors in response to an order issued by Director General McAdoo. Mr. McAdoo stated that during the period of government operation and control of railroads it is apparent that the large expenditures hitherto made by the carriers for various forms of publicity are unnecessary, and that the custom of exploiting train service, pleasure or health resorts and the like, must be discontinued until further notice. The orders affect all forms of general advertising, such as pictures, calendars, wall maps, etc., and newspaper and other advertising must be confined to the giving of necessary information to the public. A recommendation was asked as to the quantity and character of necessary newspaper advertising in each territory.

Time-table folders are also to be standardized and their distribution carefully checked to avoid waste. All advertising of luxurious trains, claims of superior service and extraneous matter of every description is to be omitted and the folders made purely informative. To bring about this standardization, committees of passenger traffic officers from the eastern, western and southern districts, with A. L. Craig, general passenger agent of the Chicago Great Western, as chairman, has been appointed to work with the division of traffic. The committee is now in session at New York, and although representatives from the various departments who are familiar with the compilation of folders may be delegated to represent the members of the committee, the sessions will be continued until the work is completed and submitted to the Railroad Administration for approval.

According to the Interstate Commerce Commission's report for 1916, the total expense of the class I roads for "outside agencies" was $24,471,940 and for advertising the expense was $7,781,776. Not all of these expenses will be saved by the new orders because the salaries will be continued but there will be a very large saving in rentals and office expenses generally. In 1916 there were 6,043 traveling agents and solicitors and their compensation was nearly $9,000,000. There were also 1,998 employees of outside agencies whose compensation was nearly $2,000,000 and 705 other traffic employees whose compensation was $785,930.

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Getting the Goulash Cannon Aboard

French Chasseurs Off for Duty in a New Sector

Accounting Under Federal Control

DIRECTOR GENERAL MCADOO has issued General Order No. 17 to the chief executive officers of carriers subject to federal control, prescribing the following rules and regulations to govern the recording of and accounting for all transactions which arise during federal control:

(1) For accounting purposes federal control began as of January 1, 1918. Immediate steps shall be taken by each carrier subject thereto, to open new and separate books of accounts, such as cash books, general and subsidiary ledgers and journals, and all supporting and subsidiary books and records incident thereto, upon which shall be recorded transactions which arise under and are incident to federal control on and after January 1, 1918. Such books shall be designated and are herinafter referred to as "Federal Books."

(2) The totals of the accounts "Cash," "Demand loans and deposits," and "Time drafts and deposits" appearing on the corporation's books as of December 31, 1917, shall be transferred to the federal books, debited to accounts of the same titles, and credited to a deferred liability account styled "(Name of corporation)—Cash—December 31, 1917." On the corporate books the amount of such balances should be transferred to a deferred asset account styled "U. S. Government—Cash—December 31, 1917." All cash transactions subsequent to December 31, 1917, relating to operations prior or subsequent thereto, shall be recorded in the federal cash book opened as of January 1, 1918.

(3) The total of account "Net balance receivable from agents and conductors" appearing on the corporation's books as of December 31, 1917, shall be transferred to the federal books, debited to an account of the same title, and credited to a deferred liability account styled "(Name of corporation)—Agents' and Conductors' balances—December 31, 1917." On the corporate books the amount of such balances should be transferred to a deferred asset account styled "U. S. Government—Agents' and Conductors' balances—December 31, 1917."

(4) The total of account "Materials and Supplies" appearing on the corporation's books as of December 31, 1917, shall be transferred to the federal books, debited to an account of the same title, and credited to a deferred liability account styled "(Name of corporation)—Materials and Supplies—December 31, 1917." On the corporate books the amount of such balance should be transferred to a deferred asset account styled "U. S. Government—Material and Supplies—December 31, 1917."

(5) In addition to the assets above specified, there shall be likewise transferred to the federal books and similarly recorded thereon, such other working assets of the corporation as may be mutually agreed upon.

(6) There shall be currently entered, upon such federal books, in the manner and under the rules and regulations prescribed by the Interstate Commerce Commission or which may hereafter be prescribed, all transactions involving revenues, expenses, taxes and rentals, and other items corresponding to those which constitute the basis upon which the standard return to the carrier shall be determined. Such entries shall include corresponding assets and liabilities and the cash settlement thereof; also all transactions involving materials and supplies subsequent to December 31, 1917.

(7) Transactions of the corporation, including those arising out of cash receipts or disbursements, which do not affect or which do not enter into and form a part of those used in determining the basis of standard return, such as interest and dividends received or paid, miscellaneous rents, and other similar corporate transactions, including additions and betterments, shall not be recorded on or passed through such federal books unless such transactions be negotiated and conducted for account of the corporation by or under the direction of the Director General. Where such income transactions are negotiated and conducted by or under the direction of the Director General the transactions shall be recorded on the federal books but credited or charged to an account to be opened, styled "(Name of corporation)—Corporate income transactions." Concurrently, corresponding entries should be made on the corporate books charging or crediting the accounts prescribed by the Interstate Commerce Commission or which may hereafter be prescribed, the offset being in an account styled "U. S. Government—Corporate income transactions." Where additions and betterments are made by or under the direction of the Director General, the expenditures shall be charged on the federal books to a deferred asset account "(Name of corporation)—Additions and Betterments." Concurrently, entries should be made on the corporate books, charging the appropriate accounts and crediting a deferred liability account "U. S. Government—Additions and Betterments."

(8) Current or operating assets, other than those prescribed in paragraphs 2, 3, 4 and 5 hereof, such as, balances due from individuals and companies, and liabilities, such as, vouchers, payrolls, etc., which were due to or by the corporation as of December 31, 1917, shall not be transferred in detail to the federal books; but as and when such assets are collected or the liabilities are paid, they shall be credited or debited as the case may be, on the federal books to a deferred liability account styled "(Name of corporation)—Assets, December 31, 1917, collected," or to a deferred asset account "(Name of corporation)—Liabilities, December 31, 1917, paid." There should be concurrently made, on the corporate books, corresponding entries debiting and crediting the U. S. Government with assets collected and liabilities paid.

(9) Transactions relating to operations, as defined in paragraph 6 hereof, if not previously accrued, shall be included in and shall form a part of the operating results of each carrier regardless of the date thereof. Items clearly applicable to the period prior to January 1, 1918, commonly called "lap-overs," shall be ascertained currently, set up on the federal books, and included in the appropriate accounts as heretofore. At the end of each month, the total of "lap-over" credit items shall be charged to an unadjusted debit account styled "Revenue prior to January 1, 1918," and credited to a deferred liability account styled "(Name of corporation)—Revenue prior to January 1, 1918." The total of "lap-over" debit items shall be credited to an unadjusted credit account styled "Expense prior to January 1, 1918," and charged to a deferred asset account styled "(Name of corporation)—Expense prior to January 1, 1918." Operating revenues which have been accrued currently in accordance with the established practice of the carrier, shall be considered as current revenues and not as "lap-over" items.

(10) The accounts between the U. S. Government and the corporation, for which provision is made herein, shall be adjusted in such manner as may be hereafter agreed upon.

(11) Inquiries as to the interpretation and application of the provisions of this order and the procedure to be observed under its requirements shall be addressed to the Director of Public Service and Accounting.

THEFTS ON GERMAN RAILWAYS.—It is hard to be hungry and remain honest, as the Prussian railway authorities have discovered. The Railway Minister has recently sent a circular letter to his chief directors of traffic calling attention to the fact that thefts of freight on the railways "are still increasing at a frightful pace"; and he announces methods for combating them. Railway stations and storage warehouses are to be better watched by military and police officials. Cars must be sealed and the seals regularly inspected by superior officials.—*N. Y. Tribune.*

Late Developments Regarding Transverse Fissures

Data Presented by Engineers Points to Origin of Defects in Mill Practice Rather Than Service in Track

ONE OF THE PAPERS presented at the annual meeting of the American Institute of Mining Engineers, New York, on February 20, was a discussion of transverse fissures by James E. Howard, engineer physicist of the Interstate Commerce Commission (abstracted in the *Railway Age Gazette* of November 30, 1917). Mr. Howard's conclusion expressed in this paper was that "transverse fissures are fatigue fractures and that they develop in rails which are structurally free from any known defect. It is a modified type of fatigue fracture in which there is a compressive component in the rail next the running surface of the head. The presence of this compressive component accounts for the interior origin of the transverse fissure. It constitutes the difference which the introduction of the term transverse fissure was intended to emphasize over the common type of fatigue fracture in which this component is absent and which in consequence thereof has an exterior origin."

This paper brought out considerable discussion on the part of railway men and the representatives of the rail manufacturers who have given this subject particular study. The discussion of C. W. Gennett, Jr., was abstracted in the *Railway Age* of February 22, page 421. Abstracts of several other discussions of special interest to railway men, which have just been made available for publication, appear below.

John D. Isaacs

John D. Isaacs, consulting engineer, Southern Pacific, New York City, submitted the following discussion.

In brief, Mr. Howard bases his conclusion upon the following facts:

1. The law of fatigue of metal was established 50 years ago. Repeated reversed stresses above 30,000 lb. per sq. in. cause failure of iron; and above 40,000 lb. cause failure of steel.

2. Steel rails in track are subjected to repeated alternate bending stresses, the magnitude of which depends upon magnitude of wheel loads.

3. Cooling stresses exist in rails from the time of manufacture; these are compression on surface and tension in interior.

4. Cold-rolling in service increases the surface compression.

5. Eighty per cent of the transverse fissures have occurred on the gage side, 20 per cent over the web and none on the outside.

6. Fissures have been located at will on the right or left side or central in the head by progressive gagging.

7. In the metal surrounding transverse fissures, neither microscope nor chemical analysis shows anything unusual.

8. No other theory as to the cause of transverse fissures has been proved.

From these facts Mr. Howard draws the following conclusion: Transverse fissures are fatigue fractures caused by excessively great repeated reversed stresses. He recommends that fiber stresses in rails be restricted to less than 40,000 lb. per sq. in.

The following facts appear to controvert this conclusion:

1. Transverse fissures have occurred in rails which showed very little wear.

2. Mere increase in the weight of rails has not brought immunity from transverse fissures and rails of the heavier sections have displayed transverse fissures after short service.

3. Transverse fissures are very rare (Southern Pacific reports show one failure in 114,000 rails per year). If fatigue were the cause, all of the old rails in heavy service should be breaking from this cause.

4. Transverse fissures are more prevalent in the product of some mills than in those of others.

5. The range of repeated stresses is greatest at the surface of the rail, as shown by Mr. Howard's table, which may be extended as shown in the accompanying Table 1.

TABLE 1—HYPOTHETICAL CASES OF LOADING A RAIL IN WHICH INTERNAL STRAINS PRE-EXISTED

Rail under assumed bending stresses in head, pounds per square inch	Longitudinal Fiber stress, pounds per square inch	
	Running surface of head	Interior element in region of transverse fissures
40,000 lb. compression	55,300 lb. compression	26,755 lb. compression.
30,600 lb. compression	45,900 lb. compression	19,235 lb. compression.
15,300 lb. compression	30,600 lb. compression	6,995 lb. compression.
No wheel load	15.300 lb. compression	5,245 lb. tension.
15,300 lb. tension	Zero stress	17,485 lb. tension.
30,600 lb. tension	15,300 lb. tension	29,725 lb. tension.
40,000 lb. tension	24,700 lb. tension	37,245 lb. tension.
Range of repeated stresses	80,000 lb. or 125 per cent.	64,000 lb. or 100 per cent.

It is seen that the range of stresses at the region of transverse fissures is 64,000 lb. and 25 per cent more than this, or 80,000 lb. at the surface of the head. The effect of fatigue of metal should be greatest where the range of stress is greatest and if the rail failed from this cause, the break should start at the surface. This disposes of the principal argument upon which Mr. Howard's theory is based.

6. Mr. Howard could not locate transverse fissures "at will" lengthwise of the rail by progressive gagging nor could he produce transverse fissures in any specific plane, indicating that some inherent defect starts the fissure. Transverse fissures were developed by him by groping for the weak places—progressive gagging.

7. Service is required to develop any sort of a defect into a failure.

8. The relation that exists between wheel loads and track stresses has not been even approximately determined. Limitation to a definite intensity is therefore impossible at present.

In conclusion Mr. Howard's theory that transverse fissures are fatigue fractures caused by excessive and repeated reversed stresses has not been proved and cannot be true in the face of the above facts. A limit cannot be put upon the fiber stresses in rails in track until the relation of wheel loads and track stresses has been established beyond a doubt. Until this relation is known, the present practice, that of laying rails which experience shows will satisfy the traffic conditions, must be continued and reliance must still be placed upon failed-rail statistics, to show where caution is necessary and where reasonable safety is not provided.

Robert Trimble

Ribert Trimble, chief engineer maintenance of way, Pennsylvania Railroad, Western Lines, Pittsburgh, Pa., submitted a table and a graphic chart containing information that he had accumulated regarding some rails manufactured by two steel companies, and laid in the main tracks of a railroad system under as nearly uniform conditions as it is possible to find, with reference to alinement, grades, roadbed and traffic conditions.

All of the rails referred to in the statement and chart were manufactured by the open-hearth process under the same specifications; that is, for any one year both mills used the same specifications. The rails are all 100 lb. per yard, and

of a uniform section throughout. In regard to service, if there was any difference at all it was in favor of the rails rolled at mill A.

Mill A furnished, during the period, 83,100 tons, of which 108 rails have been removed because of the discovery of transverse fissures. Mill B furnished, during the same period, 101,300 tons, of which 12 rails were removed because of the discovery of transverse fissures.

A study of the chart showed:

1. A relatively small number of failures of mill B rails compared with mill A rails: mill A has six times as many failures per 1,000 rails as mill B.

2. Mill A rails have disclosed failures in 13 out of 33 rollings; and mill B rails have disclosed failures in 5 out of 30 rollings.

3. Mill A rails furnished prior to February, 1913, show that 13 rollings out of 18 have disclosed transverse fissures; while mill B rails furnished during the same period show that 4 rollings out of 13 have disclosed transverse fissures.

4. Mill A shows great variation in the results from its rollings. One rolling of 1,700 tons in May, 1910, showing 33 fissured rails; a rolling of 2,600 tons in March, 1909, which had been in service 14 months longer, shows one fissured rail; and in another case of 4,600 tons rolled in February, 1910, there is but one fissured rail.

5. The rails from mill A show a very much more frequent occurrence of transverse fissures than the rails from mill B, with a correspondingly wider range of variation in regard to the failures developed in the various rollings.

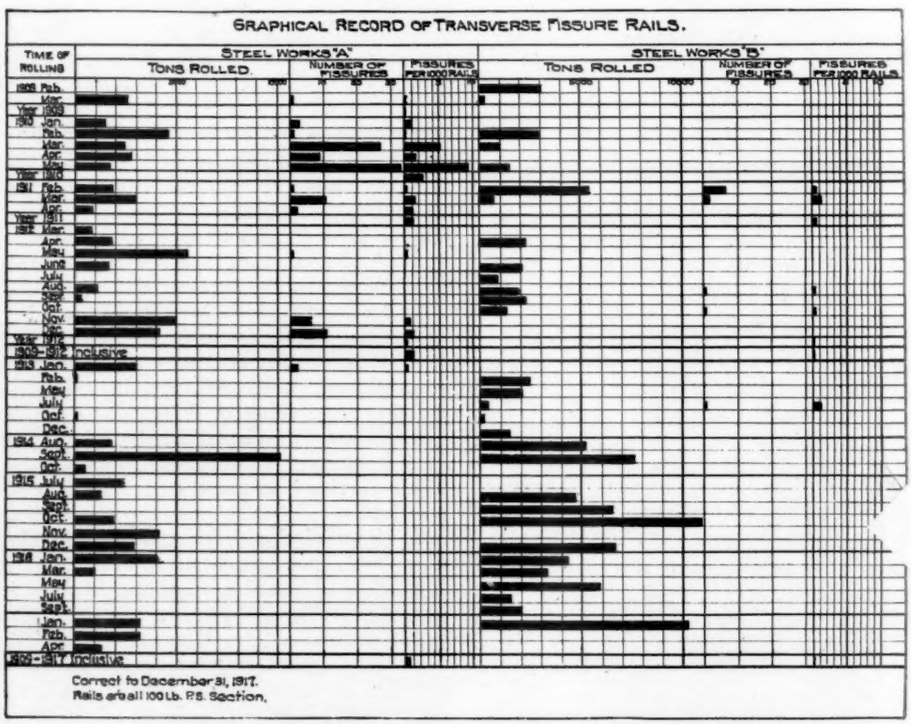
In regard to the rails which have been found with fissures, there is information to show that the material furnished did not meet the specifications in some respects.

During all of this period there has not been brought to my attention a single failure of Bessemer rail with a transverse fissure on the mileage of road, covered by the statistics referred to above, and laid to open-hearth rails.

Mill A furnished, in 1909, 4,812 tons, and in 1911, 450 tons, a total of 5,262 tons of Bessemer rail. Mill B furnished in 1909, 8,544 tons; in 1911, 1,500 tons; and in 1913, 6,251 tons, a total of 16,295 tons of Bessemer rail. This rail is of the same section and is laid in the same tracks under the same conditions as the open-hearth rail, and none of this rail has disclosed transverse fissures so far.

A large tonnage of Bessemer rail rolled previous to 1909 is still in the tracks, subjected to the same service as the open-hearth rails, and the question arises: If transverse fissures are due to fatigue, why do we not have as many failures from this cause in Bessemer rail as in open-hearth rail? This question has not been answered by the mill men nor by Mr. Howard. A mill man's reply to this question was "open-hearth rail is not ductile enough to stand the heavy loads." It is reasonable to ask, is Bessemer rail more ductile than open-hearth? I do not understand that it is.

There is information in regard to two specific heats of rails rolled at Mill A. One heat, rolled in March, 1910, was removed from the track in January, 1916, because of disclosing numerous transverse fissures. Seventy-eight rails from this heat were investigated; 10 disclosed transverse



A Graphic Comparison of Transverse Fissures from Two Mills

fissures, while the other 68 rails did not. Another heat, rolled in December, 1912, was removed from the track between February and May, 1917; 61 rails were examined, 21 disclosing transverse fissures, and 40 not disclosing them. In the case of this heat, the A rails were rejected at the mill, making this heat a suspicious one. All of these rails were in the track, the rails of each heat being subjected to substantially the same service for the same period of time.

The 78 rails rolled in March, 1910, taken from track, were examined by means of bending tests in a rail-gagging press. One purpose of the examination was to determine to what extent other fissures occurred in this heat of rails, and it was thought that this could best be done by gagging the rails with the head down so as to put this member in tension. The method adopted was to break the rails in two by nicking and bending in the gag press, and then to give each half a bend of about 4 in. Starting at one end, the rail was gagged at short intervals until the other end of the half length was reached, and if the rail stood this test with-

out breaking, the gagging was repeated in the other direction. The amount of the gagging was such as to produce a bend of about 4 in.,, measured as the distance or ordinate from a string spanning about 16½ ft. of rail, to the middle of its length. When subjected to this test, 58 of the 78 rails stood the bending without breaking. The other 20 rails broke in one or more places, and 10 of them showed transverse fissures, varying in size from some scarcely recognizable to some of large size. In the 10 rails that broke without showing fissures, the fracture radiated from a "gray spot" in the interior of the head, except in the case of rail No. 54, in which one break occurred 29 ft. 7 in. from the head end, the break seeming to start from the top surface; and in the case of rail No. 66, which had a horizontal flaw about ¼ in. from the top of the head and several inches along the side of the head.

A summary of results is given in Table 2.

TABLE 2—SUMMARY OF GAGGING TESTS

Rail letter	A	B	C	D	E	F	Total
Broken, showing fissures	1	4	2	3	0	0	10
Broken, without fissures	2	5	3	0	0	0	10
Total broken	3	9	5	3	0	0	20
Not broken	7	8	6	11	12	14	58
Total rails removed	10	17	11	14	12	14	78
Total in heat	22	22	22	22	22	21	131

One noticeable feature of these results is that there was no breakage of any of the E or F rails, of which 26 of the 43 in the heat were tested. None of the E or F rails broke, and thus, also, no fissures were found in any of them. The highest breakage ratio was found in the B rails and the next highest in the C rails.

It will be noted that 20 rails broke, with a total of 49 breaks. Twenty of the breaks showed fissures, distributed among 10 rails, and 29 of the breaks were without fissures, distributed among 14 rails; thus 4 of the rails showed breaks both with and without fissures. It is interesting to note that 14 of the 20 fissures occurred in B rails and that 26 of the 29 breaks occurred in B and C rails. One C rail gave 7 breaks, and if we exclude this rail, 14 of the 22 plain breaks occurred in B rails. The A, C and D rails which showed fissures each showed 1 fissure, while the B rails which showed fissure, aveaged 3½ fissures per rail.

It would appear that we have well-founded reasons, from the facts hereinbefore set forth, for the following conclusions:

1. Obviously a large percentage of rails laid should show failure from transverse fissures if these are caused by fatigue due to a repetition of wheel loads.

For example, the figures herewith indicate one failure to about every 3,000 rails out of the entire lot, or 1/30 per cent. The other 2,999 rails were subjected to the same repetitions of the same wheel loads, and consequently to the same fatigue, and if failure is caused by fatigue, we are clearly justified in expecting a very much larger number of failures from this cause than we actually find, especially if the material is overstressed, as has been suggested.

It may be said that the above figures are unfair by reason of the fact that a large proportion of the rails had not been in service long enough to develop transverse fissures. To meet this case, let us take, for example, the average of the rails from 1909 to 1912, inclusive, in which case we have one failure to each 1,100 rails. This is about 0.1 per cent. We maintain that we should expect to find a higher percentage of failures than this if they are caused by fatigue from overstress.

2. As a corollary from conclusion No. 1, many rollings of rails have not disclosed transverse fissures after having been in service a longer time than rollings of rails which have disclosed transverse fissures. This would indicate that the latter rails must have contained some inherent tendency toward transverse fissures before being placed in the track.

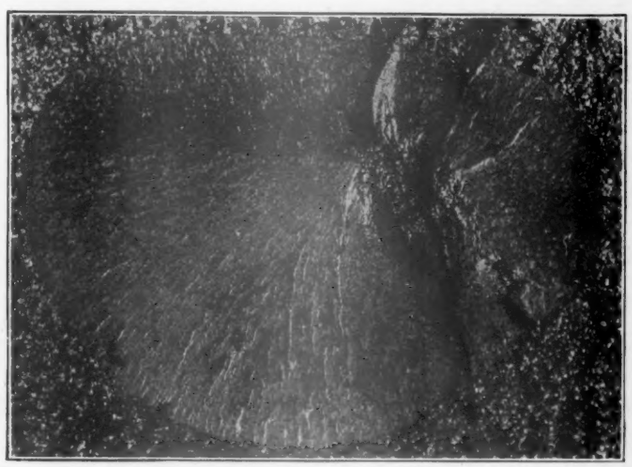
The above discussion may not throw much light on the cause of transverse fissures, but it does seem to indicate that the cause of such fissures cannot be definitely attributed to overstress in the rail caused by the present wheel loads.

On two of the systems of the Pennsylvania Lines, we had in track January 1, 1917, 219,000 tons of 100-lb. rail and 146,000 tons of 85-lb. rail. Assuming the rails to be 33 ft. long, this would mean about 788,000 rails in the track. The probability is that there is a larger number, by reason of short rails. During the year 1917, there were 451 breakages of these rails, or one to about every 1,700 rails. These breakages cover the oldest as well as the latest rails laid. Again, it would appear that there should be a higher ratio of breakages if these rails are much overstressed by their present loads.

Dr. P. H. Dudley

P. H. Dudley, consulting engineer, New York Central Lines, New York, submitted a written discussion, of which the following is an abstract:

There is a marked reduction in the number of interior transverse fissures developed in the rails manufactured in the past few years. The two main tracks of the New York Central between New York and Chicago contain about 625,000 rails, figured on a 33-ft. basis. We have had 313 rails fail from interior transverse fissures in these two main tracks in the last 5 years. Of these rails, 176 are from three small lots made by direct rolling in November and December, 1910, and January and February, 1911, amounting to about 15,000 tons. Should we subtract these 176 failures from the total, it leaves only 137 breakages during 5 years for the great majority of the rails, most of them made by direct rolling.



A Magnified View of a Transverse Fissure

The average service of rails in the main line is 8 to 10 years, and the rate of failures for the present larger tonnage will about double the former figure, or, say, 275 for the main line. In 625,000 rails, 275 failures is at the rate of one in 2,250, per 10-year period, or one in 22,500 rails per year. Stated another way, this rate is one failure per 7 miles of track per 10-year period, or one failure per 70 miles of track per year. On a percentage basis, this is 0.044 per cent per 10-year period; yet successful efforts are being made to eliminate this small percentage in future rollings.

I have spent the parts of several years at the steel mills engaged in the manufacture of rails, and have then followed their service in the track year by year. I have measured the unit strains in the rails under moving locomotives and cars by my stremmatograph and have found some of the favorable relations which can exist between them and the rails in the roadbed. It should be stated that the maximum strains in the base of the rail occur directly under the wheels; also the maximum compression in the head of the rail. At the point

of flexure in the rail, these reverse to tension in the head, which may be one-fourth and sometimes one-third of that under the wheels.

The wheel spacing governs the spans of the bending rails rather than the tie spacing, which is not generally understood. I do not find in the many tests of the unit strains in rails with my stremmatograph, which autographically records those under the wheels in the base and also in the wheel spacing, that our rails are overstrained.

Personally, as one of the engineers who has had the responsibility of rail manufacture and the investigations of interior transverse fissures, I find so much that Mr. Howard has evidently overlooked that I am unable to accept his conclusions of their origin, or agree that they are fatigue fractures.

G. J. Ray

G. J. Ray, chief engineer, Delaware, Lackawanna & Western, Hoboken, N. J., also submitted a written discussion in which he stated that it was his opinion that there is ample evidence to show that mill practice does in some manner or other influence the transverse fissure. He said in part: We have found, in practice, that open-hearth steel rail 0.75 to 0.85 carbon or thereabouts, does not show any flow of metal to speak of under the present wheel loading and heavy traffic. We have also found, to our sorrow, that transverse fissures are most sure to occur in steel rail with carbon above 0.80 and, in order to reduce the number of failures by transverse fissures, we have very materially lowered the average carbon with correspondingly good results in reducing the number of transverse fissures and in extending the life of the rail before such failures begin to make their appearance. It seems to me this is pretty good evidence that practical results on the track do not in all cases correspond with Mr. Howard's laboratory results.

If the prevailing rail section, or the present track structure is wrong, the manufacturers and other critics have not as yet suggested a practical modification of either to overcome the trouble. If we have reached the point where the present wheel loading is too great for the steel, regardless of the weight or form of the rail, we are certainly in a deplorable situation.

Mr. Howard states: "Next, it is important to ascertain the limit of endurance of rails which have been in the track and have acquired a state of internal strain. There is no apparent reason why this barrenness of fundamental data upon steel rails should longer continue." The Lackawanna has lots of data for rails rolled back as far as 1908, and much evidence to show the limit of endurance in actual service, but, of course, we do not know anything about the internal strains acquired by the various rollings except in so far as they have been determined by Mr. Howard in certain samples furnished him for experimental purposes. We do know that certain heats are more susceptible to transverse fissures than others.

In 1913, the Lackawanna had 46 heats of steel rolled at one steel mill during the month of January. Before this rail had been in service a year, transverse fissures had occurred in one heat and it became necessary to remove that heat from the track by the time the rail had been in service two years. Until the spring of 1917, or after four years' service, no other transverse fissures had shown up in any of the remaining 45 heats, although the rail was all laid in the same track. The heat which failed was very low in ductility as compared with the average of the remaining heats.

I have noted many other similar instances to convince me that certain heats are subject to transverse fissures, at least to such an extent that they tend to develop earlier in the life of the rail. Very careful observation of a mass of data has shown conclusively that the per cent of elongation developed under the drop hammer is uniformly less with the heats in which transverse fissures have developed than with heats in which no transverse fissures have occurred. It is undoubtedly a fact, as stated by Mr. Howard, that transverse fissures have occurred with rail of all weights and ages. Nevertheless, in my experience with 80-lb. Bessemer rail, rolled at Scranton, we never had a transverse fissure, although much of this rail was still in service and carrying heavy wheel loads and big tonnage up to within the last few years. Not only did transverse fissures never appear, but the rail never did give any trouble from breakage. If such rail could be manufactured in the '90s, why is it that it cannot be manufactured now?

My first experience with the transverse fissure was in 1909, some two years prior to the date of the wreck referred to by Mr. Howard. Ever since that time, I have been making an earnest effort to ascertain how to avoid accepting heats of steel in which transverse fissures are liable to occur. The more I study the subject, the more I am convinced that mill practice and chemistry do influence this type of failure. I am also convinced that it is entirely within the range of possibilities to manufacture rail with reasonably good wearing qualities and at the same time not be liable to failure due to transverse fissure, within a reasonable life of the rail, under the present wheel loading and dense traffic. With one steel mill putting out many thousand tons of rail rolled since 1911, we have had only one transverse fissure, and that was in 101-lb. rail rolled in 1913, after five years' service.

A. W. Gibbs

A. W. Gibbs, chief mechanical engineer, Pennsylvania Railroad, Philadelphia, Pa., submitted a written discussion, of which the following is an abstract:

It must, I think, be admitted that the service does very greatly affect the development, in the rail, of this as well as other kinds of failures, and that where the greatest density of traffic in combination with the greatest intensity of loading is found, the greatest number of rail failures of all kinds are to be expected. Mr. Howard's paper does not give proper consideration to the fact that in the same stretch of track, subject to identical service as to tonnage and speed, certain rails show one or a number of transverse fissures, while their neighbors remain sound. Is it not true, therefore, that it is the service which has the selective property of picking out these rails which are predisposed to failure of this kind? While not claiming that transverse fissures exist originally in the rail, I do claim that certain rails are predisposed, from the time they leave the mill, to the development of this kind of failure when exposed to service.

Unfortunately, it is not practicable to make an investigation of the interior condition of any given rail and afterward subject that rail to service, and a post-mortem in case it develops a transverse fissure. Therefore, the best that we have been able to do is to examine representative rails when new and others, associated in the same heats, which have failed from this cause. I cannot but believe that there is initially a difference in the rails which fail as compared with others in the same heat and service which do not fail, and until our investigations show us what this difference really is, we shall make no real progress toward applying a remedy.

Our records very clearly show that certain rollings have been entirely immune from this kind of failure, while other rollings have shown so large a number of them that it is impossible to believe that it is the service condition which accounts for it. To illustrate: Several years ago in the rolling of our heavy section, two mills each furnished almost exactly 10 per cent of the rails received for the year. One mill's rail has no failures to date; the other has closely 60 per cent of all failures for all mills rolling that section that year, and 63 per cent of the transverse fissures. There have been other instances almost as marked. It seems to me, therefore, that

work such as that instanced by Dr. Dudley, in tracing back to the mill in the effort to identify the cause of the failure, is the only helpful line of progress leading to a remedy.

One speaker suggested three remedies: Perfect track; reducing the weights of equipment; and heavier rail. This is simply begging the question. Perfect track has never existed, and can never be expected. No more can perfect equipment be obtained by any practical maintenance. Weights of equipment cannot be reduced unless we are to retrograde. Heavier rail must justify itself by a marked reduction in failures of all kinds; at present it is on trial. It must be said that the best rail we are now getting is good enough, judging by service results. On the other hand, we are getting, under the same specifications, rail which we cannot believe is good enough, judging by the results. Our problem is to detect, before failure, what produces this difference and apply a remedy for the bad rail.

H. D. Hibbard

H. D. Hibbard, Plainfield, N. J., submitted a written discussion which is abstracted below:

Admitting with the author that "brittleness of fracture in all grades of steel is characteristic of fatigue tests" we may yet look farther back to find out, if possible, why some rails and some steels are more prone to have transverse fissures than others, for it has been found that rails from certain heats of steel developed these fissures under a service which did not fissure rails of other heats. This demonstrates that some steels resist the fissuring conditions better than others, or to put it otherwise, that they are better.

It seems to me that a quickly developed transverse fissure in a rail results from a combination of causes which begin with the treatment of the molten metal in the furnace and end with the fissuring of the rail in the track. Briefly, these are poor steel, massive head, internal stresses in the head, and, given such conditions, to the wheel action in binding the rail and stretching the top surface metal of the head by cold rolling, as the author has described, the tendency being aggravated by gagging, which may at least determine the location of the fissures, or some of them. Thus the service stresses, instead of being the fundamental cause, may be, as it were, the last straw, and in the absence of internal stresses in the head, they might not be great enough to fissure the rail.

The quality of the steel is determined largely by the way it is finished in the furnace, a well worked, easily killed bath, not readily described in words, being wanted; this demands more time than furnacemen, who are paid for the tonnage produced, are sometimes willing to allow. Then sufficient time must be allowed after the final additions for the oxides and silicates (sonims) resulting from the consequent reactions at least to agglomerate into drops, and preferably enough time for the drops to rise to the top.

The heating and rolling which, of course, must be properly done are now rarely responsible for poor steel and presumably for transverse fissures. Nevertheless, it is quite conceivable that in rapid heating and rolling ingotism is not wholly obliterated and that cementite remaining undissolved between the grains weakens the metal. The additional time for this afforded when the blooms are reheated before going to the finishing mill may cause the diffusion of more carbon of the cementite, and so justify in a measure the opinion of those who think such reheating prevents transverse fissures.

The occurrence of fissures in open-hearth steel may be fairly laid to the more massive heads, which became common at about the same time that the use of open-hearth steel for rails became general, rather than to the process. The interior of the head of a rail, which cools last, is in a state of tension, as Howard and others have found; this is true of the interior of every piece of steel cooled in the open, and the more massive the piece the greater the tension. When the stresses from wheel action, added to that initially in the central part of the head, exceeds the strength of the metal, fissuring begins to grow under continued service. The better the steel the better it will resist.

If this explanation of the genesis of transverse fissures be correct, the cure for the trouble, or at least a method for reducing it to the minimum, is fairly obvious:

First, have the steel well made, so that it will pass a more severe drop test than is now prescribed; this will cause the rejection of heats poorly made and therefore immediately liable to transverse fissures.

Second, heat properly and finish the rolling of the rail when wholly at a temperature near, but above, the recalescence point.

Third, retard the cooling of the rail after rolling so that it shall cool at a substantially uniform rate throughout; this will prevent internal stresses in the head and elsewhere. Rails to be so cooled would be hot-straightened and would not require to be cambered after rolling, as is necessary when they are to cool in the open air according to present practice. Then cold-straightening would be diminished, if not avoided.

Of course, rails thus dealt with could not be heat-treated by any process involving accelerated cooling unless it were followed by annealing. Rails so made could be safely made of higher-carbon steel than now, and for that reason would better resist cold-flowing and stretching of the surface. Heavier sections could also be employed, which would better resist the wheel action, which contributes toward the development of transverse fissures.

Railroad Engineers in the War

THE GOVERNMENT'S COMMITTEE on public information has issued a review of the first year of America's participation in the war, based on authorized statements by officials of the government departments concerned, which contains some information regarding the work of the railroad engineers, one of whose first tasks was the reconstruction and extension of a railroad 600 miles long from ports of embarkation to general bases of operation.

Of the special engineer units recruited for service on railways and in the maintenance of lines of communication, many are already in France and others are awaiting recruitment to full strength in order to be ready for over-seas service. The first engineer troops, 1,100 strong, to be sent abroad, arrived in France about three months after war was declared. Since that time the number has been greatly augmented. These troops have been constantly engaged in general engineering work, including the construction of railways, docks, wharves, cantonments, and hospitals for the use of the American Expeditionary Forces. They have, in some instances, in the performance of their duties, engaged in active combat with the enemy.

Through the inability of the Russian government to accept certain railroad equipment and supplies ordered in this country, the Engineer department has been able to secure 200 locomotives, by assuming a liability of $11,000,000 therefor, with the understanding that the Russian government could purchase them later if desired. These locomotives have been rented to American railroads, and have thus assisted in reducing the shortage of motive power in this country.

Rails were obtained in the same way and in great part sent to France in return for rails loaned by the French government to the American Expeditionary Forces.

The office of the Director General of Military Railways, from the beginning of the war to February 20, 1918, had placed orders for railway supplies having an aggregate weight of 754,000 long tons and a value of about $142,000,000.

Maps of the Bituminous Coal Zones

THE MAPS on this and the following page show in graphic form the zones for the distribution of bituminous coal which were announced by the Fuel Administration in the latter part of last month.

Each of the maps shows both the producing section and the zone to which it is allowed to ship coal following the taking effect of the order the first of this month. It will be noticed that in some cases the distributing zones overlap. No producing section is shown on the map for Zone B, coal for that zone being supplied from Lake Superior and Lake Michigan ports.

This series of maps has been compiled by the United States Railroad and Fuel Administrations. It supplements the announcement of the Fuel Administrator made last month, a detailed report of which, with the complete description of the various zones, was given in the *Railway Age* of March 22, page 723. Complete copies of the announcement may also be obtained in Publication No. 21 of the Fuel Administration, published March 22.

The producing sections for the several zones are as follows:

A—All producing districts in Missouri, Arkansas, Kansas, Oklahoma and Iowa.

B—Supplied through Lake Michigan and Lake Superior coal docks.

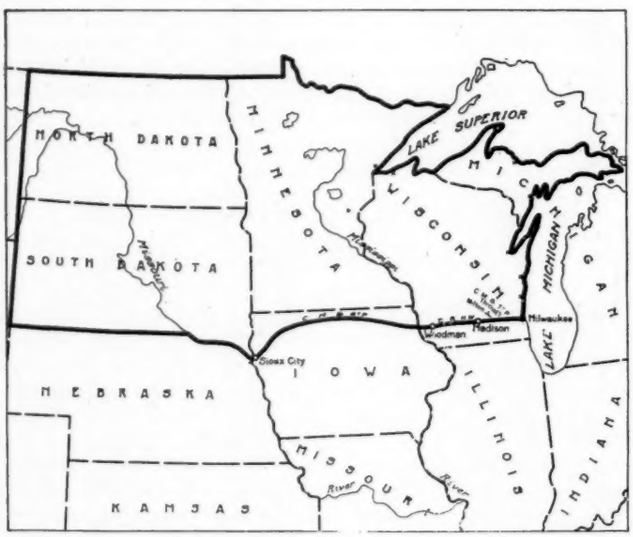
C—All producing districts in Illinois.

D—All producing districts in Indiana.

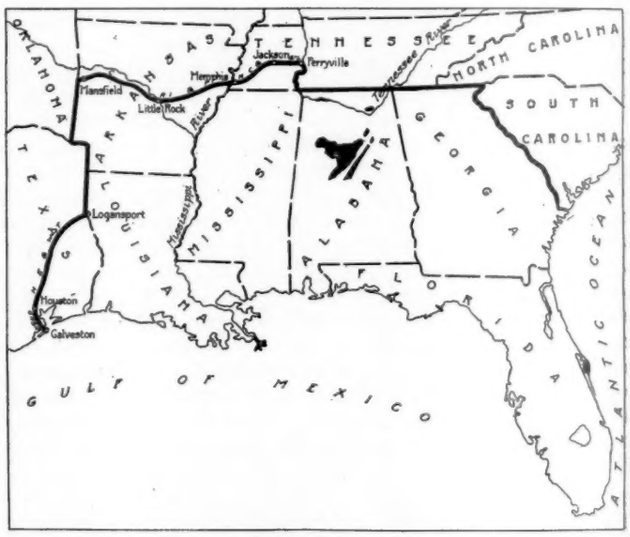
E—Producing districts in western Kentucky on the Illinois Central, Louisville & Nashville and Louisville, Henderson & St. Louis and short line connections.

F—Producing districts in Virginia on the Louisville & Nashville, only all producing districts in eastern Kentucky on the Louisville & Nashville, and the Cincinnati, New Orleans & Texas Pacific and short line connections, Tennessee mines on the Cumberland Valley division of the Louisville & Nashville and on the Middleborough Railroad.

G—All producing districts in Tennessee and Georgia; Kentucky mines on the Louisville & Nashville main line and branches connecting at and south of Corbin and on the Cincinnati, New Orleans & Texas Pacific south of Somerset; all Black Mountain and Stonega districts in Lee, Wise and Western Russell counties of Virginia located on the Louisville & Nashville, Virginia & Southwestern, Norfolk &



Zone B



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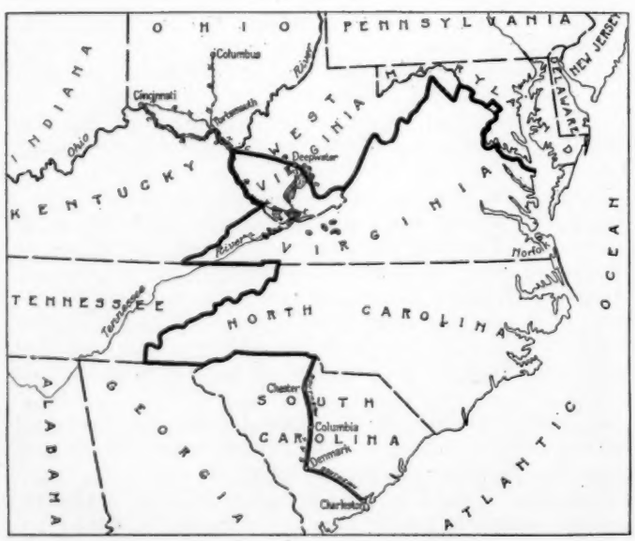
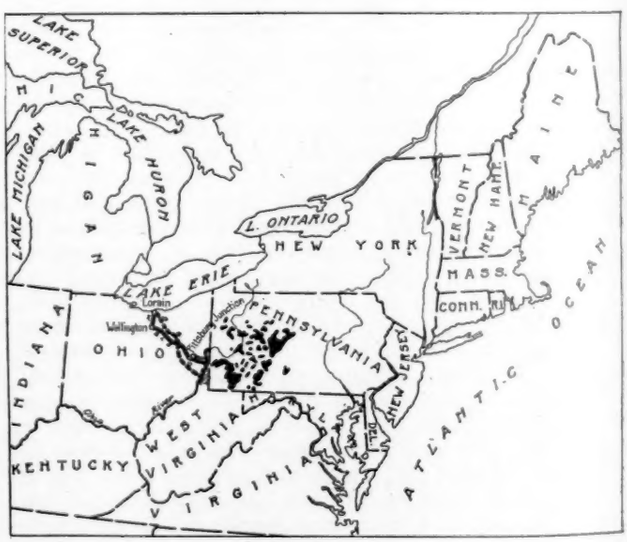


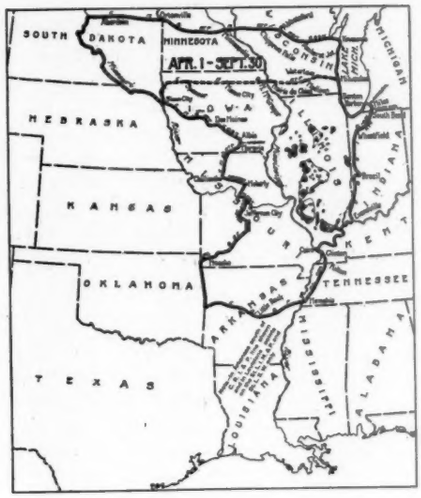
Zone N



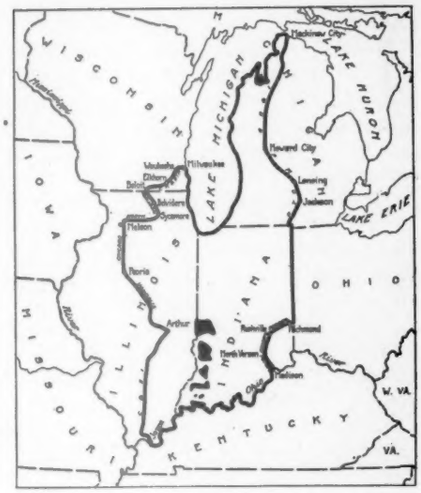
Zone P

The Bituminous Coal Zones

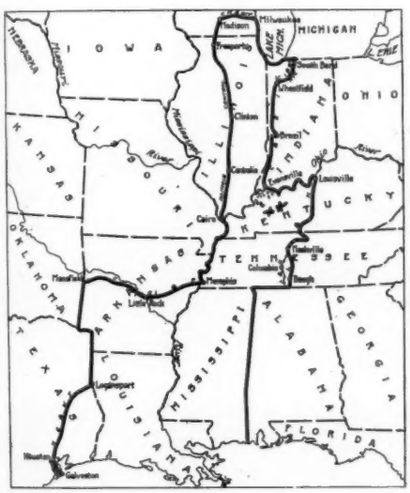
Zone A



Zone C



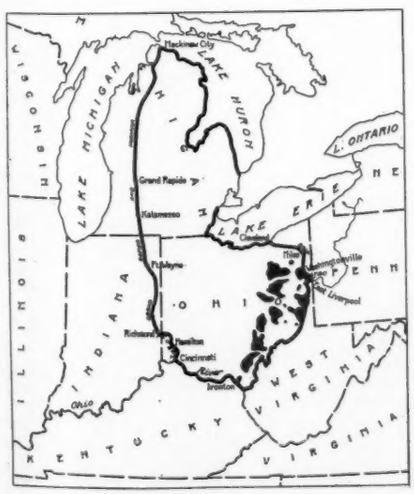
Zone D



Zone E

Zone F

Zone G



Zone K

Zone L

Zone M

The Bituminous Coal Zones

Western, Carolina, Clinchfield & Ohio and short line connections.

H—All producing districts in Alabama.

K—All producing districts in Ohio.

L—In the West Virginia high volatile fields, mines on the Kanawha & Michigan and the Kanawha & West Virginia and on the Coal & Coke (west of Dundon) and short line connections.

M—In the high volatile fields of West Virginia and Kentucky, mines in West Virginia and Kentucky, in the Thacker-Kenova and Kanawha districts on the Norfolk & Western and the Chesapeake & Ohio and Kentucky mines in the eastern Kentucky districts on the Chesapeake & Ohio and the Sandy Valley & Elkhorn and connections.

N—In the low volatile fields of West Virginia and Virginia mines in the Pocahontas, Tug River and New River districts on the Norfolk & Western, the Chesapeake & Ohio and the Virginian and short line connections and also mines in the high volatile Clinch Valley districts in Tazewell and Eastern Russell counties along the Norfolk & Western and on the Virginian.

P—All mines in Northern West Virginia, Pennsylvania and Maryland on the Baltimore & Ohio, Western Maryland, and the Coal & Coke east of Dundon and short line connections as well as all of the mines north of these lines are allowed to ship eastbound to all points in the states of West Virginia, Maryland, District of Columbia, Delaware, Pennsylvania, New Jersey, New York and the New England states reached by customary eastbound routes, including coal for transshipment to vessels at tidewater. They are allowed to ship westbound except to all Lake Erie ports for lake transshipment only, with the further exception that Pennsylvania producing districts are allowed to ship as far west in Ohio as the line of the Pittsburgh & West Virginia and the Wheeling & Lake Erie through Wellington to Lorain and the Pan Handle West Virginia producing district in Broke, Marshall, Hancock and Ohio Counties, W. Va., as far west as the line of the Baltimore & Ohio, Cleveland, Lorain & Western branch, Bridgeport to Lorain, Ohio.

Railway Engineers Fought Shoulder to Shoulder With Canadians

THE AMERICAN RAILWAY ENGINEERS who helped stem the tide of the onrushing Germans during the opening days of the battle now in progress fought shoulder to shoulder with Canadian engineers in carrying out their task, according to Associated Press despatches last Monday from the American Army in France.

They held their ground subbornly and retired to previously prepared positions only when forced to do so and inflicted casualties by the thousand upon the Germans as they advanced in close formation, in one place as many as seven waves, each wave ten men deep with one hundred yards between the waves.

The Americans with the Canadians had all the ammunition they needed, and although they were unsupported by the artillery and armed only with rifles and with a few machine guns they poured scythelike streams of bullets into the enemy at several different times until their weapons were so hot as to be useless.

Fought Furiously for Days

This handful of American soldiers, who were not hardened to such terrific slaughter, were sickened by the shambles they created, but fought furiously for several days, helping to hold the enemy all the way from near St. Quentin to the vicinity of Noyon.

These were the Americans mentioned at the time in the official communiqués, but these details of their exploits it has only now been possible to secure.

When the German attack began the Americans were working in the rear lines with the Canadians under Canadian command. They quickly threw down their tools and seized the weapons with which they had been armed for some months and formed themselves into a fighting unit. The Germans came on and finally reached the positions where the Americans were waiting.

The exact number of the engineers cannot be given, but they were comparatively few. They had no intention of retreating, and were bent upon killing all the Germans possible.

Held Their Fire

As the first gray enemy wave advanced the American forces let them come until they were within certain range, then opened fire, pouring in a storm of bullets. Gaps appeared in the advancing lines at many places, some of them large, where the machine guns had chewed through. Still the German waves came on, without firing a single shot—just advancing.

The Americans were unable to understand these tactics, but nevertheless were certain that it was a question of slaughtering the enemy or being themselves smothered under the advance. By this time their weapons were so hot, that they could not be used effectively, and the enemy was close, so that the engineers retired, fighting, took up another position, then turned and began operations again. A British officer who witnessed the engagement is reported to have said:

"They held on by their teeth until the last moment, inflicting terrific casualties on the enemy. Then they moved back, waited for the Germans and repeated the performance."

Sample for the Germans

By the time the engineers reached a place somewhere near Noyon they were nearly exhausted and almost without equipment. There they were given a chance to rest and re-equip. According to all reports, they were entitled to it, for certainly they gave the Germans a generous sample of what the enemy is to expect from the American army.

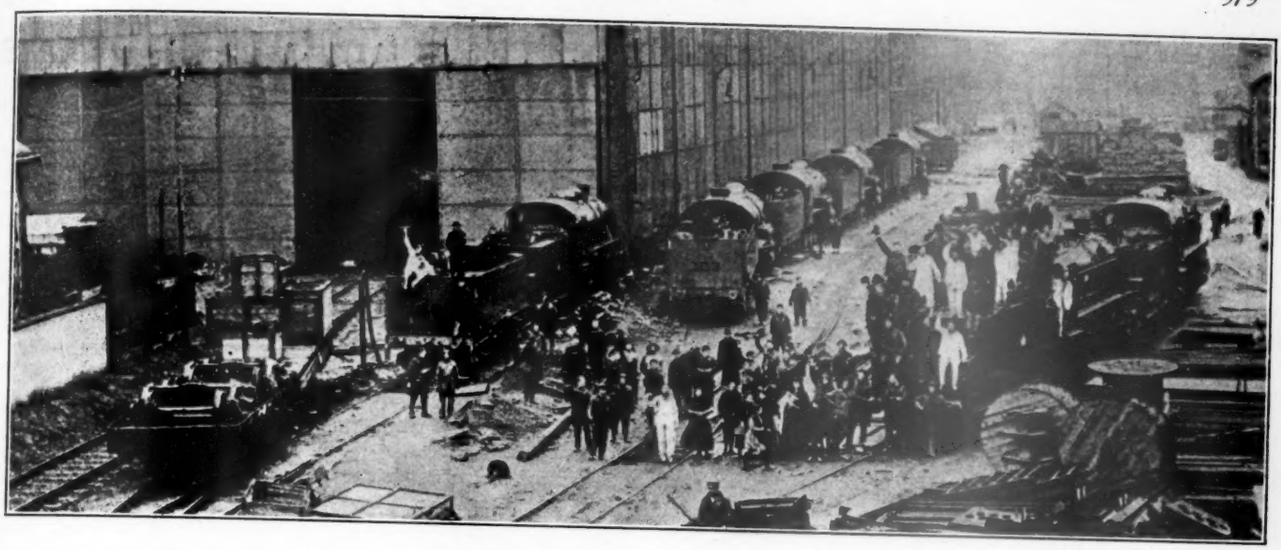
During a battle unusual stories always crop up, but the following is one which the correspondent heard from an unquestionable source, and it is said to have been verified:

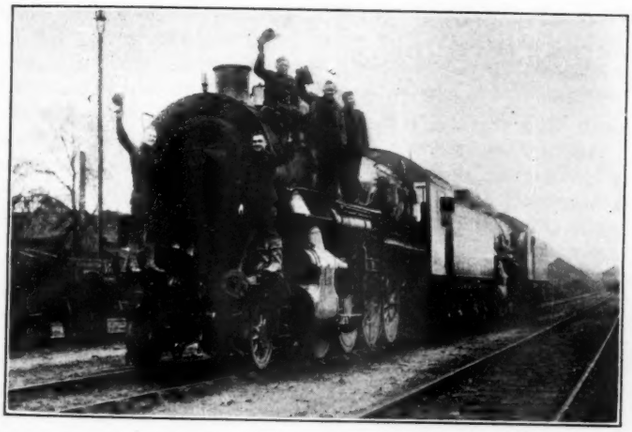
In one of the periods when the American engineers and their Canadian comrades in arms were holding a position what appeared to be a British staff motor drove up. The driver was in the uniform of a British soldier, and the man in the tonneau was in the uniform of a British staff officer. The officer stepped out and asked for the commanding officer. He was taken to a Canadian officer near by. The staff officer ordered the commander to retire four kilometres, saying that the Germans were pressing on both flanks and he might be cut off.

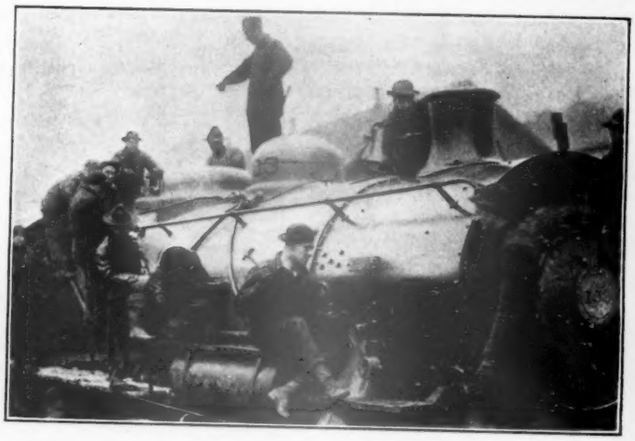
For some reason the Canadian commander became suspicious. He had the staff officer searched when the latter failed to produce his authority, and papers were found on him proving that he was a German officer. He and his chauffeurs were immediately shot.

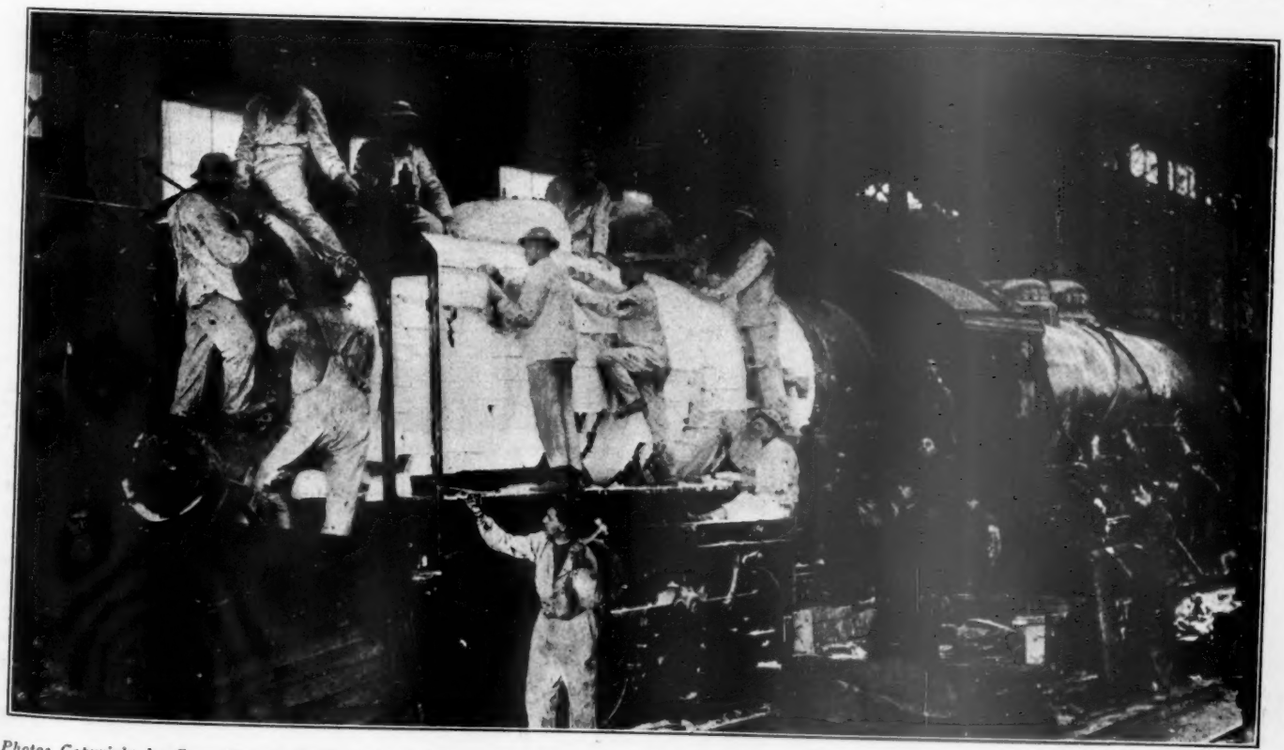
American engineers are said to have been present when this incident occurred.

RAILWAY RATES INCREASED IN GREECE.—By Royal Decree published in the Greek Government Gazette of December 15, 1917, all railways in Greece are authorized for the duration of the war, and for the period of one year after the conclusion of peace terms, to increase all passenger and freight rates by 30 per cent over rates existing as of December 15, 1917. All special discounts for freight transportation are to be abolished, and all classes of freight and express will be charged at 30 per cent more than the regular schedules obtaining on December 15.









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American Railway Engineers Assembling Their New Locomotives in France

The Railroad Drive for Liberty Loan Subscriptions

Nothing to Be Permitted to Interfere With Making Railroad Campaign a Maximum Success

UNDER THE LEADERSHIP of three railroad presidents, chairmen respectively of committees of other railroad presidents in the three railroad regional districts, the drive for Liberty Loan subscriptions is on in full swing. It is the intention of the railwaymen to reach by personal solicitation every employee on every railroad the country over, and nothing is going to be permitted to interfere with making the Railroad Liberty Loan Campaign a maximum success.

In this drive as in the other two campaigns, subscriptions by employees on a partial payment plan will be a leading feature. Employees will be allowed either to pay for their bonds in full in one payment or by installments, to be deducted from the payroll if desired, over a period not to exceed 10 months. In cases where payments covering prior Liberty Loans are as yet uncompleted, the ten months' payments on the forthcoming loan may commence from the completion of the present payments, but not later than three months from now.

The director general has announced his willingness that current operating revenues of the carriers should be used as far as may be necessary in advancing the payment for subscriptions pending reimbursement by officers and employees. In the case of carriers whose current operating revenues are not adequate to permit of their making payment in cash for the amount of bonds necessary to cover subscriptions of their officers and employees, arrangements will be made through the Regional Committee to secure loans through Federal Reserve Banks or other channels.

"Fight—or Buy Bonds"

By E. E. Loomis

President of the Lehigh Valley, and a Member of the Railroad Liberty Loan Committee for the Eastern Regional District.

Every railroad man should be a subscriber to the Third Liberty Loan. Through the efforts of the Director General, it seems certain that they will be placed in deferred classifications for military service. This is as it should be. Skilled and experienced railroad men, conscientiously giving the best that is in them at their daily tasks, are rendering the nation as great a service as would be possible in the army itself. They go to make up the most vital force behind our fighting organiation.

Special opportunities to subscribe are offered railroad men. They may buy bonds on the installment plan through monthly deductions from their pay. They do not have to begin paying for the third issue until payments for the first loan are completed.

These advantages make their duty as bond buyers all the greater.

To my mind railroad men, particularly, must answer the call.

"Fight—or Buy Bonds."

The Eastern Committee

The work of the committees during the past week or 10 days has dealt with bringing to the attention of every railroad president the importance of the campaign and in explaining the best methods to be followed to secure maximum results.

In a letter to the presidents of the eastern railroads, F. D. Underwood, president of the Erie and chairman of the Liberty Loan Committee for the Eastern Regional District, said:

"On this, the first anniversary of America's entry into the world war, our Government offers the people a third opportunity to display their loyalty by subscribing for Liberty Bonds. An immediate response will be necessary to win the war for democracy. A wide distribution of the Third Liberty Loan, paid for out of current and future earnings of the people, will be necessary to make it a success. A greatly enlarged sentiment in favor of the practice of economy, and a renewal of the spirit of self-denial and patriotism is looked for and urged. Economy practiced by everyone will help to pay part of the expenses of the war, and will go far toward winning a victory for world freedom.

"In the previous two campaigns for the sale of Liberty Bonds nearly 650,000 railroad men demonstrated their loyalty in a substantial manner, and there is every reason to believe them to be even more fully impressed at this time with the necessity of participating in the government's plan to borrow for war purposes $3,000,000,000.

"Thousands of railroad men have gone to the trenches, many sacrificing good positions, some of them their lives, in the cause of freedom; other thousands who remain at their posts are no less loyal and willing to do their part, which they can do in buying Liberty Loan Bonds. Such co-operation in previous loan campaigns had a wholesome material and moral effect. It is hoped that the effort to make a good showing will be doubly renewed, and that the reputation of railroad men as loyal and patriotic citizens will be permanently and firmly established when the Third Liberty Loan drive closes on May 4.

"The Liberty Loan Committee has been formed at the request of the secretary of the treasury to aid in providing the machinery for the men to subscribe for the bonds and pay for them in installments out of their future earnings and in a manner that will promote the general welfare and cause little hardship.

"It is hoped your company will actively co-operate in placing before all its officers and employees the opportunity to perform this patriotic service. Reports to the committee during the progress of the former subscriptions indicated that the results did not come up to expectations until the effect of the efforts of special organizations or committees of officers and employees had become manifest. Too much stress cannot be made upon the importance of organization into various committees to make special efforts to appeal personally to each employee. Almost everyone can subscribe something, and it would be a failure in their bounden duty not to do so. The work, to be helpful, must be immediate and thorough. While each company will probably find it desirable to adopt machinery and methods of appeal suited to its own organization, we enclose by way of suggestion a draft of a circular to be brought promptly to the attention of officers and employees, and a draft of subscription blank for the subscriber to sign and indicate the denomination and amount of bonds subscribed for, and method of payment.

"These forms should be forwarded to the treasurer of your company, who will draw therefrom a list of the denominations of bonds required to cover the subscriptions made, for

filing with the bank with which he has made his subscription arrangement.

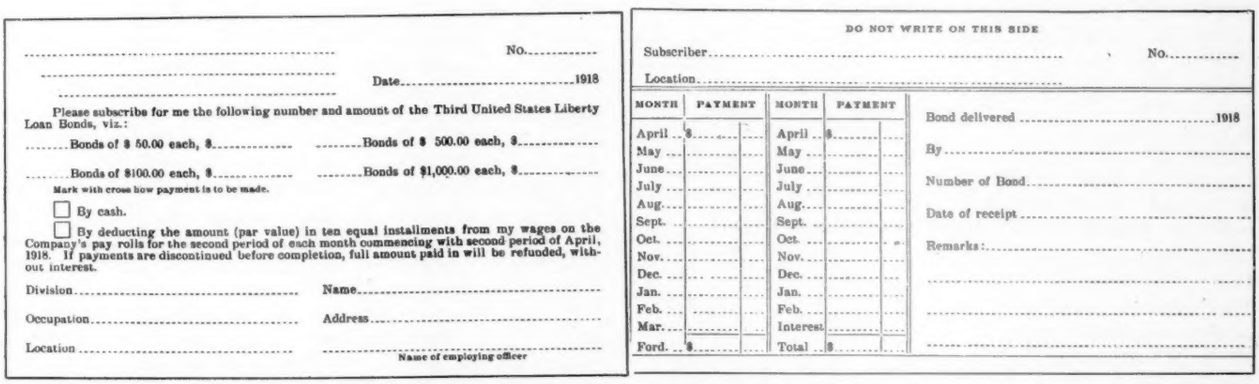
"Although the committee can supply certain posters and advertisements on request, otherwise, it seems necessary that each company shall print its own circular letters and subscription blanks, prepare and distribute its own advertisements, and arrange with its own banks, or otherwise to purchase and carry the amount of bonds required to meet the subscriptions made.

"This committee will co-operate, and will heartily appreciate suggestions. In view of the shortness of the time, it will be desirable for each company to at once adopt such plans as seem best to accomplish the desired object. The committee requests advice as to the particular plan adopted. It should be advised weekly as to the amount of subscriptions received."

The Western Campaign

"Reports from presidents of the railroads in western territory indicate most patriotic support of the Third Liberty Loan by railways officers and employees," said W. G. Bierd, chairman of the Railroad Liberty Loan Campaign Committee for the western regional district, last Monday.

"Under a plan approved by W. G. McAdoo, Secretary of the Treasury and Director General of Railroads, all Liberty Loan subscriptions by railway officers and employees are to be solicited through railroad committees and representatives," continued Mr. Bierd. "The campaign organization which



..... No.....

..... Date.....1918

.....

Please subscribe for me the following number and amount of the Third United States Liberty Loan Bonds, viz.:

.....Bonds of $ 50.00 each, $..... .....Bonds of $ 500.00 each, $.....

.....Bonds of $100.00 each, $..... .....Bonds of $1,000.00 each, $.....

Mark with cross how payment is to be made.

☐ By cash.

☐ By deducting the amount (par value) in ten equal installments from my wages on the Company's pay rolls for the second period of each month commencing with second period of April, 1918. If payments are discontinued before completion, full amount paid in will be refunded, without interest.

Division..... Name.....

Occupation..... Address.....

Location..... .....

Name of employing officer

DO NOT WRITE ON THIS SIDE

Subscriber..... No.....

Location.....

MONTH	PAYMENT		MONTH	PAYMENT	
April	$		April	$	
May			May		
June			June		
July			July		
Aug.			Aug.		
Sept.			Sept.		
Oct.			Oct.		
Nov.			Nov.		
Dec.			Dec.		
Jan.			Jan.		
Feb.			Feb.		
Mar.			Interest		
Ford.	$		Total	$	

Bond delivered 1918

By .....

Number of Bond.....

Date of receipt .....

Remarks:.....

Subscription Card Suggested by Western Regional Committee

has been effected on every western railroad insures every person on its payrolls being personally solicited to subscribe to this Liberty Loan. A record will be kept by every railroad of the subscription of each employee. A summary of these records will show exactly how much the railway employees have contributed to this loan. . . .

"It is the aim of every railroad president to have every officer and employee subscribe to this bond issue. It is already apparent that there will be keen rivalry between the western roads not only to reach the 100 per cent mark, but to have the largest subscription in proportion to the number of employees.

"In round numbers on the four hundred railroads in the Western Regional District, there are 800,000 officers and employees, and their annual wages are about $850,000,000. Watch the railroad men go 'over the top' in this Liberty Loan Campaign."

The Use of Committees

In all three regional district campaigns, particular stress has been put on the necessity of using committees and of reaching every man. The organizations suggested by the Eastern and Western committees are similar. That following, however, is the plan suggested by Mr. Bierd:

The best methods for securing the maximum results in this campaign have been carefully considered, and it has been determined that the following form of organization should be immediately formulated upon each railroad, upon whom the importance of the work should be thoroughly impressed and by whom substantially the same methods and procedure will be followed by all lines in the Western Regional District:

I. *General committee.*—Headed by the president, or other executive officer, who will issue and enforce necessary instructions. He may select other officers to serve on this committee with him.

II. *General office committee.*—Three representative general officers, who necessarily must devote a portion of their personal effort, and in turn shall appoint captains under their jurisdiction in the various general office departments.

III. *Divisional committees.*—Three or more representative division officers or employees.

While these officials or employees can devote only a portion of their personal time, they must realize the importance of the ultimate success of this railroad campaign and follow up daily the work of such captains and leaders under their jurisdiction in the respective branches of the service, as they may see fit to appoint. It is suggested that all brotherhood representatives in the various crafts, both general chairmen, division chairmen, and local chairmen, be utilized to the fullest extent in the furtherance of this campaign.

IV. *Terminal committees.*—This committee should be composed of three or more such employees as station agent, yardmaster, roundhouse foreman, car repair foreman, storekeeper, and such other employees in charge of large forces.

V. *Shop committees.*—A committee at each shop composed of three or more of the officers in charge, such as superintendent of motive power, master mechanic, master car builder, shop superintendent, general storekeeper, etc.

It may be necessary that further sub-committees be appointed in the mechanical department to cover all outlying shops and that numerous sub-committees and captains thereof be appointed in all large shops and repair yards.

VI. *The divisional committees*, of which the chairman would undoubtedly be the division superintendent, shall see that all other classes of employees not specifically covered are properly organized under their jurisdiction, such as local agents, track foremen and track men, bridge and building department employees, signal department employees, miscellaneous telegraph and telephone linemen and maintainers.

It is the intention that every employee of the railroads shall be personally urged to subscribe for as large an amount of Liberty Loan Bonds as possible by the officer on whose payroll he is carried, each such officer in turn reporting to his superior officer, and they in turn to the various committees having jurisdiction in this campaign over such officers and employees. It is important that no employee should be overlooked and that they should be solicited repeatedly by the

captain or leader having jurisdiction until such subscriptions as they may be willing to make have been secured.

A daily record should be made and turned in to each of the sub-committees, and in turn to the general committee, showing the amount of subscriptions received for the day. As these records are turned in from day to day to local committees, renewed efforts should be concentrated upon all employees not making subscriptions or not making sufficiently large subscriptions, and continued until it is definitely determined that no subscription can be secured from such employee.

With the elimination of all competition for traffic and the consequent reduction now being made in solicitation forces, there are quite a number of older traffic employees being transferred for duty in other departments. It is suggested that of these men, a sufficient number, and consisting of at least one man, should be delegated to each of the above named committees on each line, and if men are available that a greater number of such traffic officers be assigned to the committees most needed, these men to act in the way of a flying squadron, to be fully posted on all features connected with the Liberty Bond Campaign and in position to address gatherings of employees and members of the respective committees, and thereby give any desired information that may be required and stimulate a patriotic interest that should exist among all officers and employees. These men are generally of a type, and their experience has been such that they should be well fitted for undertaking work of this character. They can readily acquaint themselves with all the details of the campaign by carefully reading the literature and attending some of the general meetings that will be held in various communities for that purpose. It is the intention that these men will be subject to the instructions of the various committee chairmen, and will be despatched from one location to another as may appear necessary to stimulate the desired interest and accomplish the maximum results.

Chicago Supply Trade Organizes to Push Liberty Loan

The railway supply trade in Cook county, Illinois, has been organized to push the Third Liberty Loan. C. K. Knickerbocker, Griffin Wheel Company, is general chairman of the committee. Vice-chairmen are as follows: F. A. Poor, P. & M. Company; C. H. Riddell, Baldwin Locomotive Works; H. W. Wolf, American Car & Foundry Company; Thomas Finigan, American Brake Shoe & Foundry Company; R. H. Ripley, American Steel Foundries; A. P. Bowen, Pullman Company; T. W. Aishton, National Malleable Castings Company, P. R. Smith, Ayer & Lord Tie Company; E. P. Wells, Charles H. Besly & Co., and G. K. Sage, Fairbanks, Morse & Co. The following supply trade men have volunteered their services in support of the drive: A. S. Goble, Baldwin Locomotive Works; C. S. Palmer, Pittsburgh Steel Company; John Ritchie, P. & M. Company; W. J. Pierson, C. B. Carson, H. G. Turney, A. S. Anderson, and F. J. Stender, Adams & Westlake Company; L. R. Dewey, C. P. Wright, J. G. Tawse, A. G. Delany, American Brake Shoe & Foundry Company; Eugene L. Williams, G. D. Casgrain, A. W. Brown, Griffin Wheel Company; Jack Patton, Ajax Forge Company; H. A. Smith, J. E. Gougeon and C. L. Bates, Railway Review; E. A. LeBeau, Chicago Railway Equipment Company; G. K. Sage, F. E. Church and F. F. French, Fairbanks, Morse & Co.; W. J. Morden, Morden Frog & Crossing Company; N. C. Naylor, Railway Steel-Spring Company and C. S. Boggs, A. W. Clarke and W. W. Taylor from the Central Liberty Loan Committee.

Rainbow Division Committee in New York

The railway supply firms in New York are organized for the Third Liberty Loan Campaign through the Rainbow Division's Special Liberty Loan Committee for the Machinery and Machine Tool Trades. The committee is headed by J. W. Lane, president of the E. W. Bliss Company. R. L. Patterson, president of the American Machine & Foundry Company is vice-chairman; Charles B. Houston of the E. W Bliss Company is secretary and Charles A. Hirschberg, publicity manager of the Ingersoll-Rand Company, is publicity director. The committee itself is composed of over 40 members of which about 12 are associated with companies in the supply field. These 12 include L. Barron, secretary of the De La Vergne Machine Company; Leigh Best, vice-president of the American Locomotive Company; G. D. Branston, treasurer of Manning, Maxwell & Moore; C. I. Cornell, treasurer of the Pratt & Whitney Corporation; F. S. DeLano, treasurer of the American Car & Foundry Company; George Doubleday, president of the Ingersoll-Rand Company; F. F. Fitzpatrick, president of the Railway Steel Spring Company; Henry Fuller, vice-president of the Fairbanks-Morse Company; H. C. Knox, treasurer of the American Brake Shoe & Foundry Company; John Lidgerwood, president of the Lidgerwood Manufacturing Company; T. Frank Manville, president of H. W. Johns-Manville Company and E. A. Stillman, president of the Watson-Stillman Company.

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Captured by the British in Palestine

Our Foreign Trade in Railway Supplies*

An "Exploration" of the Purchasing Commissions and Export Houses in New York

By P. Harvey Middleton
Executive Assistant, Railway Business Association

TO OBTAIN INFORMATION of value to those members of the railway supply craft who may desire to enter the foreign field, I was requested by our Association to go down the line in New York. I was to imagine myself as a railway supply man who had never dealt in foreign accounts and who was disposed to explore the possibilities in that direction. When I had become somewhat saturated with the spirit of the character which I was to enact, my first impulse was a curiosity to see whether I could sell railway supplies to foreign railroads just as I could to domestic roads—without setting foot outside the country or risking the lives of members of my sales force on a trip through the haunts of the submarine. I found that starting from our New York office I could call upon the actual purchasing agents of some 20 foreign railways without going outside a belt of Manhattan bounded on the south by the Battery and on the north by the City Hall.

The Direct Method

At 17 Battery Place I sent in my card to A. Ankersmit, who is the American representative of the Netherlands Government and who buys supplies for the railways of the Dutch East Indies. Mr. Ankersmit, whatever the custom in the land of dikes, conforms while among us to a gracious practice which I understand is universal among railway purchasing agents in America—he hurried out to greet me and conducted me immediately to his private office. "We have bought in this country," said Mr. Ankersmit, "locomotives, freight cars, rails and accessories, also general equipment for the state railways in Java and Sumatra to an amount which I should estimate at about $4,000,000 during the past two years. My government operates in Java and Sumatra 2,485 kilometers of standard gage track and 87 kilometers of narrow gage track, and we have 700 kilometers under construction.

"We have 513 engines in operation, 1,600 passenger cars and about 10,000 freight cars. When we buy material it is on the basis of f. o. b. factory. We attend to all the shipping details. This arrangement is during the war. In times of peace we would buy f. o. b. New York and I would attend to the shipments. I have placed orders recently with one company for about 9,000 tons of rails and have also ordered 4,500 tons from two other companies. I can tell American manufacturers that there is considerable business awaiting them in Java. Before the war the business went to England, France and Belgium. Holland does not export a great deal. With a population of 34,000,000, with 200 sugar plantations, with coal mines, with coffee and cotton plantations, and with lines of steamships connecting Java directly with New York and San Francisco, there is no reason in the world why Americans should not obtain valuable trade there."

I was assured by Mr. Ankersmit that railway supply salesmen would always receive a hearty welcome at his hands.

Some Specialties Not Bought

Then I went over to 43 Exchange Place to see J. P. Ripley of the J. G. White Engineering Corporation, which has the management of the Pacific Railway of Nicaragua, a little republic where the United States marines are industriously protecting American interests. The J. G. White Corporation, also manages the Philippine Railway, which operates in the islands of Panay and Cebu. "All the purchases for these two roads are made from this office," said Mr. Ripley, "and we are always more than glad to meet railway supply salesmen. We buy about everything except rail braces, tie plates, anti-creepers, superheaters, power reverse gears, block signals, and six-wheel trucks. We haven't any use for these things. Our trains do not operate at high speeds and the weights carried are not heavy. All our trains are run on train orders." In this case also the buyer attends to the shipping.

I next called upon A. Palanca, an engineer representing the Italian State Railways, whose office is at 291 Broadway. "You can tell your people," said Mr. Palanca, "that we buy cars, car wheels, boiler plates, boiler tubes, lubricating and fuel oils and other miscellaneous supplies. All material is forwarded on our own ships and the Italian Ministry of Shipping maintains an office here."

Good Demand in Far East

At 17 Madison Avenue I interviewed Mr. Iyama, the purchasing agent of the Imperial Government Railways of Japan. "We have our own car and locomotive plants in Japan," he said, "which produce one-third more than we can use, the surplus going to China. We do, however, buy from American manufacturers steel plates, shapes, rails, lubricators, injectors, gages, spring steel and other semi-manufactured commodities. We recently placed an order with a Colorado company for 20,000 tons of standard American 75-lb. rails."

Purchases for the government lines and for the privately operated railways of Japan and China are also made by Mitsui & Co., the most powerful commercial concern in Japan, whose New York manager is Konosuke Seko. "In 1917," said Mr. Seko, "we made purchases in the United States of railway equipment $2,300,000, of electrical machinery and appliances $2,900,000, of steel products $3.200,000 and of general machinery $3,500,000." The Okura Company, whose New York manager is B. Imai, is another active Japanese railway purchaser. I called upon Mr. Imai at his office in 30 Church street. "We are changing from 60 to 75-lb. rails as fast as we can throughout Japan," he said, "and we are also going to widen our gage, which is at present 3 ft. 6 in. This will of course necessitate large buying of supplies." I glanced over Mr. Imai's record of recent orders, which included boiler tubes, buffers, cast steel forgings and steel castings, rolled steel wheel centers, couplings, plate glass, steel axles, steel bars and plates, boiler plate and firebox plate, steel channel and flat bars, steel frame plate for locomotives, steel round bars, steel rails, tires, bridge material, electric railway cars and equipment, etc.

Good Market in Cuba

A railway supply salesman will find a score of other foreign railways in the downtown district of New York. At 280 Broadway, for instance, I found the purchasing agent of the Bolivia Railway, an American corporation which has done considerable buying in this country for the new lines now being constructed in Bolivia. Among others interviewed was H. Bellefeuille, secretary of the Havana Central

* From a pamphlet written for distribution at the Railway Business Association meeting in Chicago on Monday.

Railroad at 42 Broadway. This company acts as purchasing agent for six railway companies in Cuba. "The supplies purchased for our companies," he said, "include every class of material used by steam and electric roads, and also all materials necessary for the maintenance and operation of electric power houses and lighting systems along our lines." The National Railway of Tehuantepec (which, in case you don't know it, is an isthmus in Southern Mexico) is at 65 Broadway. Other countries represented in New York are Peru, all the republics of Central America, Brazil, Haiti, Ecuador, and Panama.

A list of all purchasing agents of foreign railways with offices in the United States can be furnished by the Railway Business Association.

This gives a clear idea of the opportunities offered by the direct method. Another opportunity for securing direct orders is afforded by the occasional visit of railway purchasing agents sent here by foreign companies or governments. For instance, Justiniano Sotomayor, vice-general manager of public works of Chile, recently arrived at the McAlpin Hotel, having been sent to this country to buy railway supplies. Judicious enquiries at the principal hotels in various large cities will reveal the presence of these gentlemen from time to time.

The Commission House

Having exhausted the possibilities of dealing direct with the agents of foreign railways located in this country, I turned to another avenue at home which is open to the manufacturer. This is the export commission house.

I called upon Homer C. Johnstone, manager of the steel department of Gaston, Williams & Wigmore, Inc., one of the largest export houses, with established offices and sales forces nearly all over the world. Some idea of the size of this company may be gathered from the fact that it has over 400 employees in its New York office and over 1,000 in its Paris branch.

(The gist of Mr. Johnstone's remarks as reported by Mr. Middleton was given in Mr. Johnstone's article in last week's *Railway Age* on "How the Export Houses Help in Foreign Trade." In addition, however, to some of the things mentioned in his article Mr. Johnstone told Mr. Middleton, "We have supplied all our branches with copies of the Locomotive Dictionary and the Car Builders' Dictionary, so that our men in the field can familiarize themselves with the subject.—Editor.)

I next visited W. A. Will of Dutilh-Smith McMillan Co., 50 Broad street, an export commission house which purchases railway equipment for various countries in Latin America. "Our Buenos Aires office was opened especially to take care of railway supply business," said Mr. Will. "If a railway supply manufacturer desired us to take up the introduction of his products into the foreign markets served by us we would place the matter in the hands of our branch offices in Buenos Aires and Rio de Janeiro and instruct them to put their salesmen to work on it. They are seeing buyers all the time and have the advantage in dealing with them—which a railway supply manufacturer dealing direct would not have—that they not only sell them American goods but buy their products for the American market. On receiving an order we would pay cash for the goods at the plant of the railway supply manufacturer and he would have nothing further to do with it. The troubles connected with transporting the goods from his plant to destination and the extension of credits would be up to us."

The African Market

Then I called upon L. P. Lawrence, secretary of Arkell & Douglas of 44 Whitehall street, New York, an export commission house with branches or agencies in many foreign countries. "Our purchasers of railway material," said Mr. Lawrence, "are exceedingly large, particularly for British and Portuguese South and East Africa. We purchase also for Australia, Mauritius, India and South America, but our African purchases are very much the largest, as we are the purchasing agents for this country and Canada for the Union of South Africa government. To give you an idea of the volume of this business, we might mention that we have on hand at the present time orders which will amount to over $550,000." A call was also made upon Jardine, Matheson & Co., of 25 Madison avenue, who have 25 branches in China and Japan.

These are typical export commission houses. There are many reliable houses of this character in New York, Boston, New Orleans and other seaports. A list of such houses with their trade ratings and foreign connections can be furnished by the Railway Business Association.

The export commission house serves equally the foreign buyer and the exporting manufacturer. Transactions are greatly simplified. The foreign buyer, instead of corresponding with a score of manufacturers in the United States, located at various places, writes a letter to one commission house, combining the orders. The commission house distributes the order to the various manufacturers, collects the goods in one shipment, makes one bill of lading and one draft on the buyer. Only one set of shipping papers is necessary for the entire transaction. The commission house adds a percentage to the manufacturer's price to pay for its service.

Foreign Investments

I now decided to make an excursion into the realm of statistics to find out just what the foreign trade in railway supplies amounted to. I returned to the Association office and waded through the statistics of exports of domestic merchandise, picking out those articles which were obviously railway supplies, such as locomotives, cars and wheels, spikes, switches, ties, etc. I found that for the 12 months ending December, 1917, the exports of these articles totaled $103,616,813. This figure would be materially increased if it were possible to separate railway purchases included under iron and steel, machinery, hardware, tools, etc. It was thus apparent that considerably over $100,000,000 a year of American supplies were exported to foreign railways in spite of the heavy investments of Europe in those enterprises.

I called at the National City Bank to learn just what Americans were doing to overcome this handicap of foreign investments. Over 60 per cent of the railroads of South America are controlled by British capital. "A railroad constructed with British capital will buy its equipment and supplies in England," said Beverly D. Harris, vice-president of the Bank. "A debtor country must naturally make its purchases largely in the market of the country where credit may be obtained in some form or other for the settlement of trade balances. Recognizing this condition as fundamental, the American International Corporation with a capitalization of $50,000,000 was created by the National City Bank for the permanent expansion of American foreign trade. Under its charter it can own and operate railway and street car lines and other public utilities and manufacturing establishments."

Following the lead given by Mr. Harris I went over to the Equitable building to the office of the American International Corporation, where I was informed that the Siems-Carey Railway & Canal Co. of St. Paul, Minn., will construct as soon as possible with money furnished by the American International Corporation over 3,000 miles of lines in the rich Chinese provinces of Szechuen, Hunan and Chihli —provinces with a population much larger than that of the entire United States—which will be opened up to foreign trade by these new American owned railways.

Having now personally investigated the various avenues

of export trade opened to railway supply manufacturers at home, my next inquiry was directed at the methods adopted in securing orders by direct contact with the buyers in foreign countries. I put the question up to George H. Charls, vice-president of the American Rolling Mill Company, who has recently returned from a trip to England and South America.

Co-operation in Foreign Trade

"There is only one avenue to success," he said, "and that lies in co-operation, if possible the forming of syndicates quite as strong and well organized as those of our foreign competitors. Under present conditions if 20 steel companies are persuaded to go after export business in Brazil, at least 20 men must be sent to that country. If 20 countries offer a field, at least 400 men must be sent abroad, and they will have to compete with one another. If 20 steel companies co-operate under the provisions of the Webb bill, one man can accomplish the result of 20. In the name of pure economy and self defense we cannot safely pursue any other course. The same plan will permit the joint co-operative advertising of all members."

As all authorities seem to agree that the American manufacturer must combine to secure his share of foreign trade I went back to the American International Corporation to have a talk with W. S. Kies, vice-president, who is regarded as an authority on export combinations. "Can you give me a rough outline," I asked Mr. Kies, "of how railway supply manufacturers could proceed in forming an export combination?" Mr. Kies replied as follows:

How to Form a Combination

"After the passage of the Webb bill," he said, "a group of both competing and non-competing manufacturers could form a railway supply exporting corporation, with branches in the strategic trade centers of the world. The leaders in the industry should be at the head of such a combination to make it successful. Each member at the beginning of the year would report to the corporation the amount of his product available for export during the year, conditions of delivery and acceptance of orders, and price at which he would sell in a foreign market. The sales force of the corporation would undertake the disposal of exportable surplus of its members on the terms and conditions specified, obtaining the best price possible, making use of its own branches, of export commission houses, trained salesmen, and every other agency of demonstrated value in building up foreign trade. The difference between the price quoted and the price obtained would belong to the export corporation as a profit, and upon all sales all members would pay to the export corporation a minimum percentage as a commission. Whenever a demand was found to exist in a particular market for a certain quantity of goods which must be sold at a lower price than quoted by any of the members, in order to meet foreign competition, all members would be notified of the possible order and given an opportunity to meet the foreign price, the lowest bidder or bidders receiving the order. The export corporation would provide an expert to gather statistical and other data of value to the industry, which would be distributed promptly to all members.

"If such an organization were created, with men of the right calibre at the head of it, the American International Corporation would be glad to co-operate with it." In this connection it should be borne in mind that the American International Corporation already owns the Allied Machinery Company of America, which does a large foreign business in machine tools, and also owns the Allied Construction Machinery Corporation, representing a group of non-competing manufacturers. This last company acts as sole direct foreign selling agent and representative for the products of the Lakewood Engineering Company, the Thew Automatic Shovel Company, the Parsons Company, the Austin Manufacturing Company, the Western Wheeled Scraper Company and the Hydraulic Pressed Steel Company.

This little story describing a tour of observation only touches a few high spots. Every manufacturer of railway supplies has his own problems and probably no two would want answers to the same questions. Certainly there is no single place where all the questions of all concerned on this subject can be answered. The Railway Business Association office does not pretend to be so thoroughly equipped with information that all inquirers can be answered out of our own resources. It is probable, however, that any member who is afflicted with perplexity can save time by making use of our office which will either respond forthwith, or obtain the information for him, or advise him where he can get it.

New England Railroad Executives' Committee

WHILE RAILROAD AFFAIRS are undergoing a rapid process of centralization under the direction of the Railroad Administration, a considerable degree of decentralization has been introduced in the eastern district by the organization of local district committees of railroad executives for the purpose of settling locally many problems which affect the roads serving various districts. The first of these district committees to be organized was that of the New England roads, which was suggested to the regional director, A. H. Smith, as the result of a conversation between the executives of two of the New England roads, Percy R. Todd, president of the Bangor & Aroostook, and J. H. Hustis, receiver of the Boston & Maine, on New Year's day. Later similar committees were organized for the New York & Niagara, Central, Philadelphia, Baltimore & Pittsburgh, Hampton Roads, Michigan and International Boundary districts.

The New England committee is known as the New England Railroad Executives' Committee and comprises the chief executive officers of the following roads: New York, New Haven & Hartford, Boston & Maine, Boston & Albany, Central New England, Maine Central, Bangor & Aroostook, Rutland, Central Vermont, Grand Trunk, Canadian Pacific Lines in Maine and the president of the New England Steamship Company. J. H. Hustis, receiver of the Boston & Maine, is chairman of the committee. Immediately after the formation of the committee representatives of the most important industrial organizations in New England, at the suggestion of Chairman Hustis, formed a committee composed of such men as the president of the Boston Chamber of Commerce, the chairman of the board of directors of the Old Colony Trust Company, the chairman of the Associated Manufacturers of Massachusetts, an officer of the Arkwright Club, composed of 100 cotton mills, and other men of that type, about 12 in number. This committee is known as the New England Transportation Conference and its object is similar to that of the Railroad Committee, to deal with the railroad in settling at home if possible all questions arising between the commercial organizations in New England and the railroads of that territory. The conference requested the Railroad Committee to appoint one of its members to sit with it each week at its meeting in Boston and to act as the medium of communication between the commercial and railroad interests. Mr. Todd was selected by the Railroad Committee as its representative for this purpose.

It is stated that the business men have displayed a splendid spirit in co-operating with the railroad executives to make government control of railroads during the war a success, and it is believed that they have set an example which could be followed with results mutually satisfactory to both

railroad men and representatives of the shippers in all parts of the country.

As an illustration of the character of the matters discussed at these meetings, at the first meeting of the conference a representative of the Arkwright Club set forth the condition of the cotton mills due to the fact that they had from 6,000 to 8,000 carloads of cotton in transit from Arkansas and other southwestern points to New England since the latter part of October and early in November, none of which had reached destination, but all of which had been paid for on order bills of lading. The aggregate amount that members of the club had paid out on this account was approximately $80,000,000, and a banker member of the conference added that for the first time in twelve or fifteen years the New England cotton mills were borrowing money on short term notes to pay their current expenses because of their failure to receive the cotton and secure a return from its manufacture. This matter was taken up with the railroads and an arrangement reached by which one trainload a day was forwarded regularly out of the accumulation at St. Louis via the New York Central, as originally billed.

But as a result of one of the possibilities under government control most of the accumulation was handled via Memphis, Tenn., instead of via the New York Central, and forwarded to Savannah, Ga. Arrangements were made through the director general's office for the Shipping Board to furnish steamers to carry the cotton to New England ports. There were no through rates or divisions in existence from Memphis via the port mentioned to New England and the diversion could hardly have been made under private management of the railroads. But under the arrangement made the cotton was brought forward with such promptness that the situation was materially relieved. Most of the cotton mills were engaged in manufacturing for government purposes and if some such arrangement had not been made they would have had to close down. The movement of cotton via Savannah was mentioned in a recent issue of the *Railway Age*. A large number of more or less similar matters, many of them purely local to New England, have been taken up and disposed of through the medium of this weekly conference between the commercial and railroad interests.

Reports of Capital Expenditures Required

PURSUANT TO GENERAL ORDER NO. 12, issued by the director general with respect to railroad work involving charges to capital account, the division of capital expenditures has issued a series of forms on which railroads are to report their schedules of proposed work for the recommendation of the regional directors and the approval of the director of the division of capital expenditures. The budgets of most of the roads for 1918 had already been submitted in preliminary form prior to the organization of this division and most of those for the larger roads have already been tentatively approved. The instructions regarding the reports, as given in D. C. E. circular No. 1, are as follows:

First. Please prepare promptly and forward not later than April 30, 1918, a schedule by class of work, of all uncompleted work contracted for or commenced prior to January 1, 1918, which involves charges to capital account after that date. Such schedule should be on D. C. E. Form 1 and should show location of work, brief general description, total estimated expenditure, value of salvage recovered from property retired, amount chargeable to operating expenses, amount chargeable to capital account, amount expended to December 31, 1917, chargeable to operating expenses and to capital account, respectively, amount required subsequent to December 31, 1917, to complete the work divided as between operating expenses and capital account, and should be divided into classes on Form 1, in accordance with the classification given on D. C. E. Form 1A. There should be a recapitulation on D. C. E. Form 1A of the schedules given on D. C. E. Form 1. Copies of said forms are transmitted herewith and made part hereof. All projects involving a charge of $5,000 or more to capital account subsequent to January 1, 1918, should be shown as separate items on D. C. E. Form 1, and projects involving a charge of less than $5,000 to capital account should be reported as a single item at the foot of the schedule of each class of work and included in the total of the class.

Second. A monthly report, commencing with the month of January, 1918, of all work contracted for or commenced during the month involving a charge to capital account for any single project of less than $5,000 should be made on D. C. E. Form 2, giving total estimated expenditure, value of salvage recovered from property retired, amount chargeable to operating expenses, and amount chargeable to capital account; and should be reported by classes as indicated on said D. C. E. Form 2. Reports for the months of January, February, and March should be forwarded promptly and before April 30, 1918, and reports for subsequent months should be prepared promptly and forwarded before the 15th day of the succeeding month. Copy of D. C. E. Form 2 is transmitted herewith and made part hereof.

Third. A separate report for each project contracted for or commenced subsequent to January 1, 1918, involving a charge to capital account of not less than $5,000 or more than $25,000 should be made within 10 days after the work has been or shall be contracted for or commenced on D. C. E. Form 3, and a separate blank should be used for each report. Projects of this description commenced or contracted for during January, February, or March should be reported as promptly as practicable before April 15, 1918. Copy of D. & E. Form 3 is transmitted herewith and made part hereof.

Fourth. To obtain the authority required by section "Second" (for the construction of new lines, etc.), section "Third" (for purchasing or building new equipment), and by section "Sixth" (for work involving a charge to capital account in excess of $25,000) of General Order No. 12 issued by the director general, application should be made on D. C. E. Form 4 and a separate blank should be used for each application. This requirement applies to all work involving a charge to capital account in excess of $25,000 contracted for or commenced subsequent to December 31, 1917, even though included in the answer to the director general's questionnaire of February 2, 1918, and covered by any general approval of the budget embraced in such answer. Projects contracted for or commenced during January, February, or March should be reported as promptly as practicable and before April 15, 1918. Copy of D. C. E. Form 4 is transmitted herewith and made part hereof.

Fifth. D. C. E. Form 3 and D. C. E. Form 4 should bear separate serial numbers, each beginning with No. 1 and continuing consecutively; and these numbers will represent the record numbers of the Division of Capital Expenditures and the regional director as well as the carrier, and will constitute the reference for all correspondence in connection with the work covered thereby. The information given on these forms should be sufficient to afford an understanding of the general character of the work and the necessity therefor but need not be elaborate or in detail. Where the work was included in the answer to the director's questionnaire of February 2, 1918, reference should be made thereto.

Sixth. A monthly report commencing with the month of January, 1918, should be made on D. C. E. Form 5 of the total authorizations and expenditures to the end of the month, for capital account. The reports should embrace all uncompleted work contracted for or commenced prior to January 1, 1918, and all work subsequently contracted for, commenced or authorized which involves charges to capital account after January 1, 1918. The report should divide the work into

classes in accordance with the classification given on D. C. E. Form 5 and should show the total estimated expenditure; value of salvage recovered from property retired; amount chargeable to operating expenses; amount chargeable to capital account; expenditures prior to January, 1918, chargeable to operating expenses and to capital account respectively; expenditures for the month chargeable to operating expenses and to capital account respectively; and expenditures from January 1, 1918, to the end of the month chargeable to operating expenses and to capital account respectively, in accordance with said D. C. E. Form 5. Reports for the months of January, February, and March, 1918, shall be forwarded promptly before April 30, 1918, reports for subsequent months should be prepared promptly and forwarded before the 25th day of the succeeding month. Copy of said form is transmitted herewith and made part hereof.

Seventh. D. C. E. Forms 1, 1A, 2, and 5 should be prepared in triplicate and two should be sent direct to the Director of the Division of Capital Expenditures at Washington, and the other should be sent to the regional director for the district. D. C. E. Forms 3 and 4 should be prepared in triplicate and be sent to the regional director for the district. The regional director should at once transmit to the Director of the Division of Capital Expenditures the original and one copy, retaining the other copy for his file and information. In case he approves without qualification, he should sign the form accordingly. In case he disapproves, he should transmit with the form a memorandum of his views. One copy of each form will be returned to the carrier through the regional director, who should note on his copy the action taken by the Director of the Division of Capital Expenditures.

Eighth. Each carrier should immediately cause to be printed the blank forms necessary for him to comply herewith, upon a fairly good quality of paper, of sheets of the exact size and following the style of type and ruling indicated by the sample blank forms transmitted herewith.

Ninth. The accounting methods prescribed by the Interstate Commerce Commission and now in force afford the data required for making the reports herein required, and prompt compilation and return in all cases is urged. Uniformity should be maintained, and when in doubt in connection with the use of these blanks, the question should be submitted to the Director of the Division of Capital Expenditures. The classification of work as given on the forms is deemed sufficient for the purposes for which reports are required: but there may be some large and exceptional work which, in the case of some lines, might well be shown separately, and blank numbers are left in the classification for such cases. It is hoped, however, that these cases will be rare.

For the purpose of securing uniformity in reporting all work involving a charge to capital account a schedule is prescribed for the use of all roads under federal control. So far as is practicable while maintaining the identity of each separate improvement this conforms to the classification of investment in road and equipment as prescribed by the Interstate Commerce Commission.

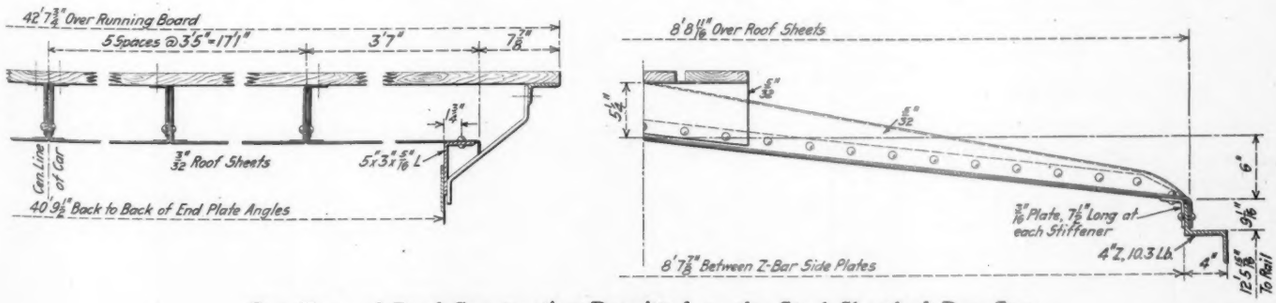
In order that the division may be correctly informed of the amount expended by carriers, chargeable to capital account, during the years 1915, 1916 and 1917, carriers are requested to submit a report showing separately for each year the total expenditures for additions and betterments excluding equipment, total expenditures by classes for equipment, total expenditures for construction of new extensions and branches, also new lines, total expenditures chargeable to capital account and miles of road operated at the close of the year. These reports are to be sent both to the regional directors and to the director of the division of capital expenditures.

United States Standard Steel Sheathed Box Car

Specifications and Designs Are Similar to Other Box Cars, Wooden Lining on Sides and Ends

THE RAILROAD ADMINISTRATION issued during the past week specifications and drawings for a 50-ton steel frame, steel sheathed box car having an estimated weight of 46,000 lb. As in other designs, every attempt has been made to have the details of these cars the same as the other standard box cars. The underframe is practically a duplicate of the single sheathed car, several of the door details are the same and the draft sill is the same with the exception of minor changes necessitated by the design of the car. The body specifications are the same as those for the box cars published in the *Railway Age* of March 29, page 785. This car is to be carried on the standard 50-ton truck and has the following general dimensions:

Length inside	40 ft.	7⅜ in.
Width inside*	8 ft.	6 in.
Height inside*	9 ft.	0 in.
Length over striking plate*	42 ft.	1½ in.
Width over roof sheets	8 ft.	8⅛ in.
Width over side plates	9 ft.	4 in.
Width over all	10 ft.	0 in.
Height from rail to top of car at eaves	12 ft.	9 in.

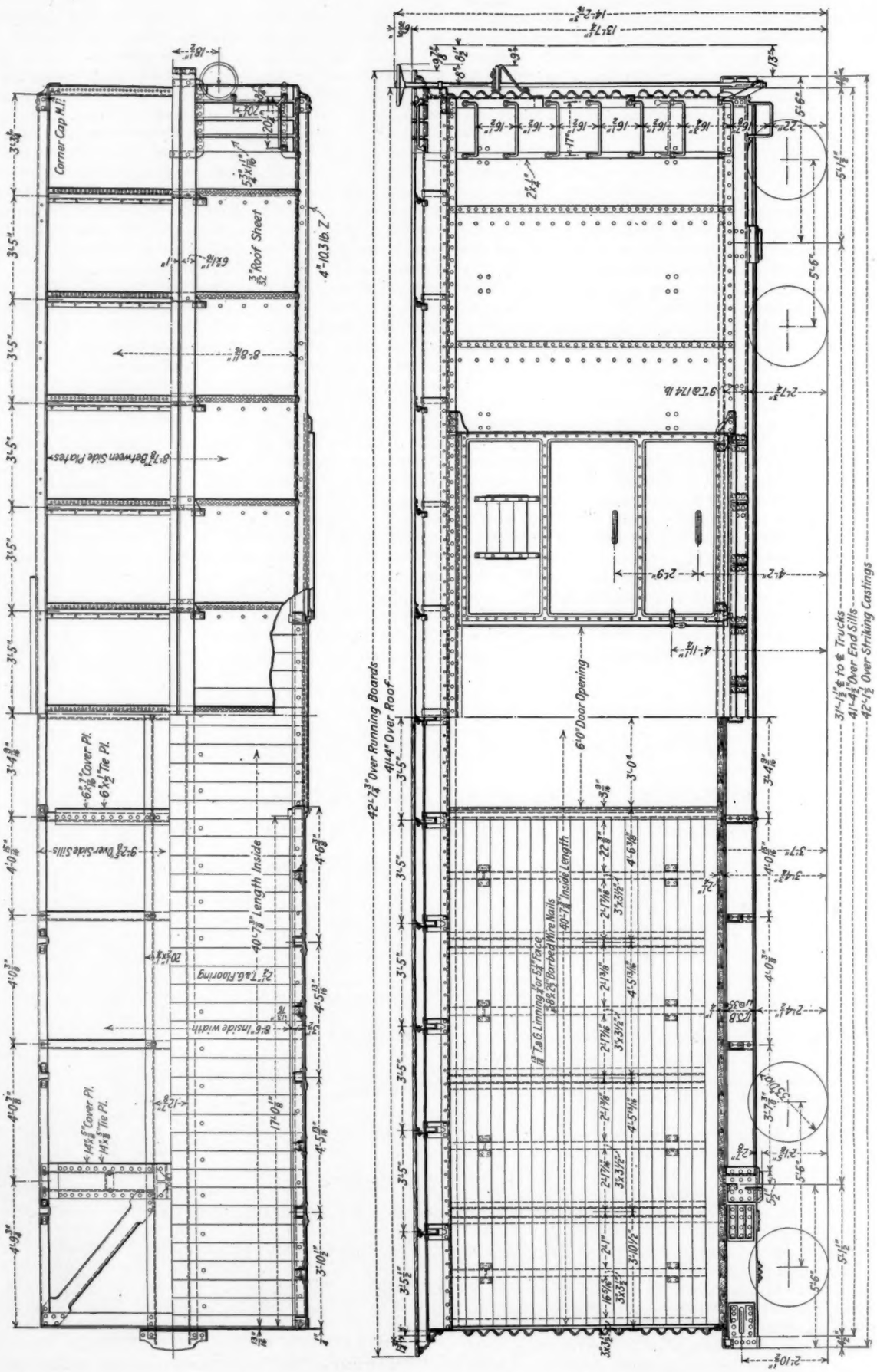


One Type of Roof Construction Permitted on the Steel Sheathed Box Car

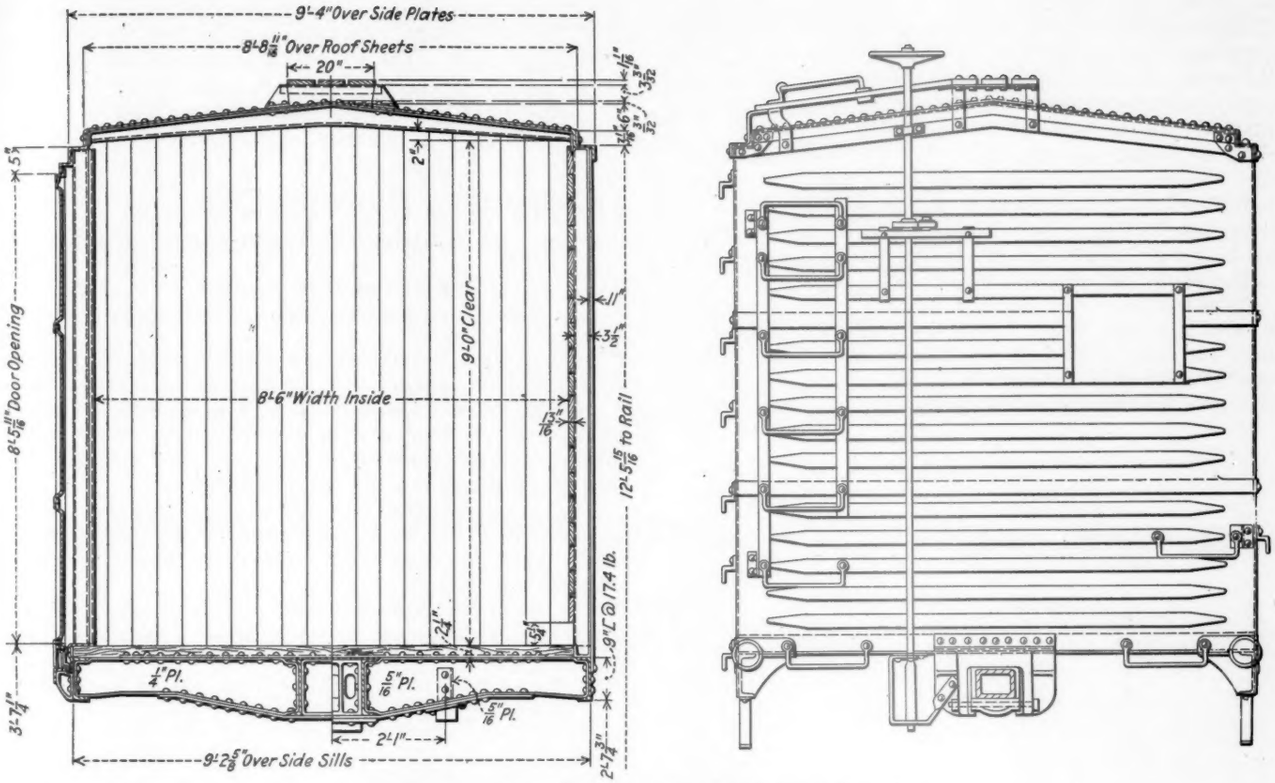
Height from rail to top of brake mast	14 ft.	2⅞ in.
Height from rail to top of running board	13 ft.	7¼ in.
Distance center to center of trucks*	31 ft.	1½ in.
Height from rail to center of coupler*	2 ft.	10½ in.
Height from rail to bottom of center sill*	2 ft.	4½ in.
Estimated weight		46,000 lb.

*These dimensions are common to the other box cars.

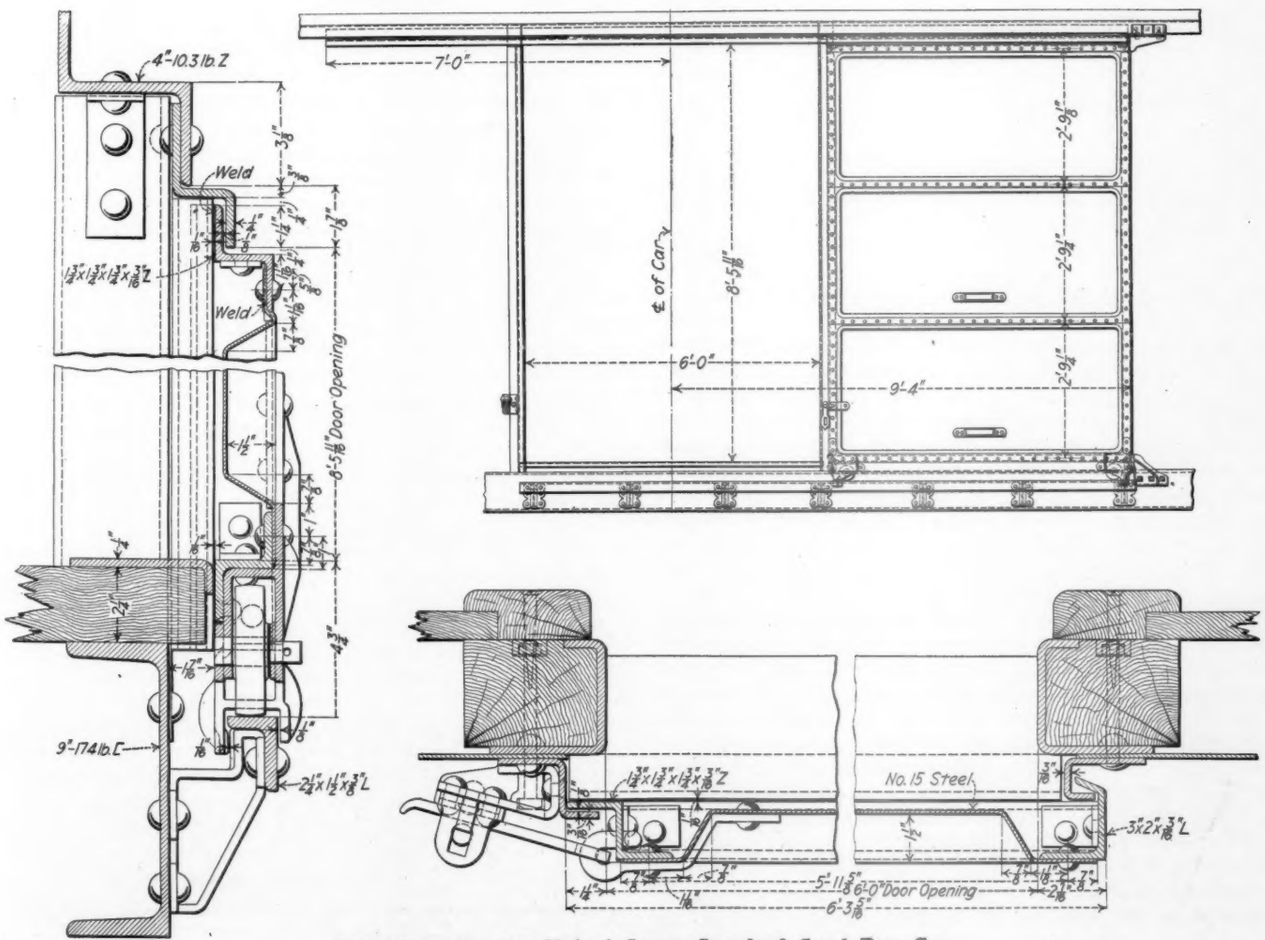
Underframe.—The underframe is very similar to that used for the single sheathed box car, having 12-in. channel



General Plan of the United States Standard Steel Sheathed Box Car



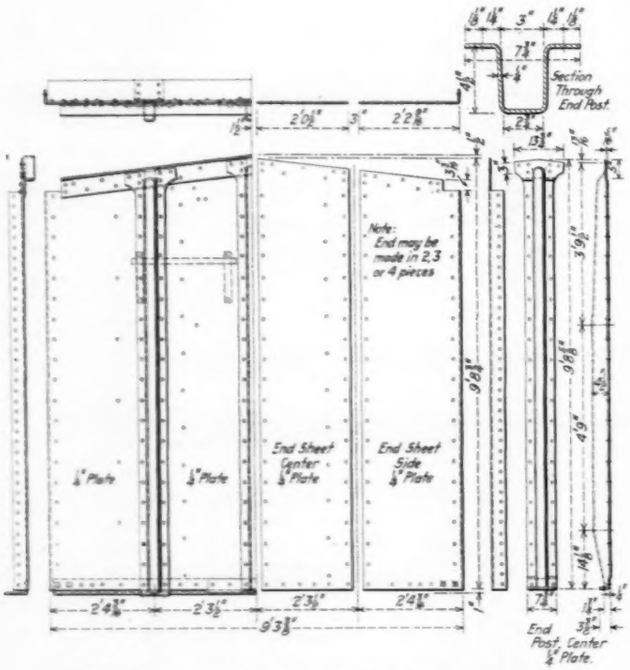
Section and End View of the Standard Steel Box Car



Steel Door for the United States Standard Steel Box Car

center sills with a 20½-in. by ¼-in. cover plate, 9-in. channel side sills, ¼-in. pressed steel floor supports, pressed steel diaphragm bolsters and 5/16-in. pressed steel corner braces. The crossbearers are the same, with the exception of the cover plates, which are slightly heavier for these cars. The end sills are 6-in. by 4-in. by ⅜-in. angles, on the outside of which is riveted the steel end. The draft sills are practically identical with those of the other box cars, the only change being in unimportant details made necessary for supporting the steel sheathing of the car. On account of the similarity in the designs of the underframes a reproduction of the underframe for this car is not shown.

Superstructure.—The designs for this car call for a ⅛-in. steel sheathing with a 13/16-in. lining at the sides and ends, and a steel roof of 3/32-in. plates. The same designs of steel ends are permitted as for the other box cars. The side framing is well illustrated in the view showing


Section Through End Post
Note: End may be made in 2 3 or 4 pieces
End Sheet Center ¼" Plate
End Sheet Side ¼" Plate
¼" Plate
¼" Plate
End Post Center ¼" Plate.

Plain Steel End for the Standard Steel Box Car

the general plan of the car body. There are six pressed steel posts on each side of the car made from ¼-in. plate. These are 8 in. wide and 3½ in. deep. In addition to these there are eight 3-in. by 3½-in. wooden side posts to which is nailed the inside lining. The end posts for the plain end construction, which are shown in one of the illustrations, are pressed from ¼-in. plate and are 7¾ in. wide by 3¾ in. deep. The corner posts are of wood. The side plates are 4-in., 10.3-lb. Z-bars, to which are riveted the side sheathing and the roof sheets. The end plate is a 5-in. by 3-in. by 5/16-in. angle.

There are two designs of roof permitted, that shown in the general plan and one shown in the roof section which has been reproduced. In both cases a 3/32-in. roof sheet is required. A pressed steel carline is used on the arrangement shown in the general plan and the running board is supported by angles bolted to a pressed angle curved to conform to the contour of the roof. In the other plan the roof sheets are supported by outside carlines pressed from 5/16-in. steel, which also support the running board.

An all-steel door of the underhung type is used, providing an opening 6 ft. wide by 8 ft. 5-11/16 in. high. This door is made up of three pieces of No. 15 gage steel, pressed as indicated in the drawings. The door framing is made up of a 1¾-in. by 1¾-in. by 1¾-in. by 3/16-in. Z-bar at the front, top and bottom, and by a 3-in. by 2-in. by 3/16-in. angle at the back. The rollers are carried on a 2¼-in. by 1½-in. by ⅜-in. angle. There are many of the details of the door common to the doors used on the other box cars.

Transporting Railway Coal Under Government Control*

By Francis S. Peabody
Chairman of the Peabody Coal Company.

PRODUCTION OF COAL in the United States during the year 1917, although the greatest in the history of the industry, was far short of the requirements. Producing capacity of mines now in operation is in excess of the demands of the consumers in this and other countries relying on American coal for their supplies.

The 1917 production was limited very largely by transportation facilities, which, by reason of shortage of labor and inability to secure early delivery of material, cannot promptly be increased.

The conclusion is logical that any substantial increase in production must come through increased efficiency of the existing instrumentalities of transportation. Every car in coal service must handle more coal than during last year.

An exhaustive study of the movement of commercial coal has shown conclusively that saving of transportation with consequent greater car supply at mines and increased production can be secured by a system of zones, restricting the movement of cars to shorter distances, avoiding cross-hauling and preventing the movement of coal from far distant producing districts to consuming centers more accessible to other producing districts. A system of zones, with this object in view, has been put into effect by the fuel administrator to govern the movement of commercial coal, but this will apply to only two-thirds of the total production.

Railroads consume approximately one-third of the total bituminous coal production of the country. Economies can be secured by restrictions on the movement of cars used in handling railroad fuel, by the adoption of a plan somewhat similar to that under which commercial coal is moving.

At present purchases of railroad fuel seem to be made with regard only to quality or convenience from a transportation standpoint, with very little, if any, consideration to the distances involved in delivery and demoralization of labor conditions at mines. Many mines are given 100 per cent running time supplying railroad fuel only, as against a much lower running time for mines supplying commercial coal. The result of this practice is to demoralize labor conditions, as mine employees naturally seek those mines giving the greatest number of hours per week. This practice also reduces the producing capacity of commercial mines on which the public depends for their fuel supply, with consequent increased costs. All of this could be avoided by a more equitable distribution of the loading of railroad fuel.

The practice of coal originating railroads in securing their entire supply from a small number of mines and handling this coal to far distant terminals should be discontinued. A distribution of the entire requirements should be made proportionately with all mines located on their lines, except in cases in which coal from adjacent coal fields located on other roads could be handled with a much shorter haul.

The erection for temporary use of coaling stations nearer to producing districts would effect further saving.

Coal for non-originating coal roads should be procured from the producing districts nearest to the coaling stations;

*Mr. Peabody formerly was chairman of the Committee on Coal Production of the Council of National Defense.

a division pro rata to be made among all coal operators in the district. In the case of two or three non-coal-producing railroads requiring coal from the same or nearby coal producing centers, for the purpose of efficient and economical handling of trains, the orders for each railroad could be concentrated in certain definite sections so that movement could be by train-load rather than in smaller quantities.

As most railroads consume more coal in winter months than during summer months, shipments should be made during the months of April, May, June and July of not only the requirements for those months, but in addition an amount equal to the storage capacity, for use during the four winter months of November, December, January and February. It should be as much the duty of the railroads to store this coal to provide against extra winter demand, as it should be the duty of the coal operators to load it.

During the months of August, September and October the current requirements of the railroads should be shipped and the storage left intact. During the months of November, December, January and February the tonnage ordered should be only that required for use during those months, less the coal already stored during the summer months. There should be no difficulty in securing by daily shipment during the month of March the current requirements.

Railroads should be required to repair during the summer months the old and useless (from the standpoint of regular shipments) coal and flat cars, for utilization during the winter months in handling storage coal to such points on the line as necessity requires, thereby releasing serviceable equipment for commercial use at that time.

A plan of this kind would not only bring about great economy in the use of equipment but would do away with the present disastrous condition and most effectively help the labor situation.

Regulations for Reconsignment of Carload Freight

Elaborate Provisions for All Reasonable Demands. Separate Rules for Inspection and for Coal

THE INTERSTATE COMMERCE COMMISSION has given its approval of new rules and charges for the diversion and reconsignment of carload freight proposed by certain carriers in response to the commission's decision in the reconsignment case and has authorized all carriers by rail to establish them, effective on May 1. The approval does not authorize the cancellation of diversion or reconsignment rules applicable to less than carload freight. The rules are as follows:

Application

Freight in carloads, except as provided below may be diverted or reconsigned on this company's lines, subject to the following rules, regulations and charges.

If request is made for the diversion or reconsignment of freight, in carloads, this company will make diligent effort to locate the shipment and effect diversion or reconsignment, but will not be responsible for failure to effect the diversion or reconsignment desired unless such failure is due to the negligence of its employees.

Definition

For the purpose of applying these rules, the term "Diversion" or "Reconsignment" means:

(a) A change in the name of the consignee.

(b) A change in the name of the consignor (See Rule 6).

(c) A change in destination (See Rule 5).

(d) A change in route at the request of consignor, consignee or owner.

(e) Any other instructions given by consignor, consignee or owner necessary to effect delivery which requires a change in billing or an additional movement of the car, or both (see Section *f* of Exceptions).

Conditions

The services herein authorized are subject to the following conditions:

(a) That shipments have not broken bulk.

(b) Orders for diversion or reconsignment will not be accepted under these rules at or to a station or to a point of delivery against which an embargo is in force.

(c) On "Straight" consignments the original bill of lading should be surrendered or other proof of ownership established. On shipments consigned "to order" original bill of lading should be surrendered, or in its absence, satisfactory bond of indemnity executed in lieu thereof, or other approved security given at the time the diversion or reconsignment order is placed.

(d) Request for diversion or reconsignment must be made or confirmed in writing.

(e) *Prepayment or guarantee of charges:* All charges accruing under these rules must be paid or guaranteed to the satisfaction of the carrier by the person or persons requesting the diversion or reconsignment or reforwarding before shipments are forwarded.

Exceptions

These rules will not apply to:

(a) Ex-lake grain from lake ports or ex-lake rates. (For Central Freight and Trunk Line Associations' roads only.)

(b) Grain, hay, straw or grass and field seeds held or stopped for official inspection. (General Diversion or Reconsignment Rules will be applied by Southern roads.)

(c) Fresh or green fruits; fresh or green vegetables (including potatoes and onions): fresh berries and melons.

(d) Coal and coke (not including petroleum coke). (General Diversion or Reconsignment Rules will be applied by Southern and Southwestern roads on Coal and Coke.)

No charge will be made:

(e) For a single diversion or reconsignment if order for such diversion or reconsignment is received at initial billing point before car leaves the yard at such initial billing point, provided the change involves no extra movement of the car.

(f) Where a car is placed for delivery at destination, and an order for the delivery of the contents thereof to other than the billed consignee is or has been presented to and accepted by the agent of this company at destination, and no change is involved in billing records, nor additional movement of car required.

(g) Where a change in route is made necessary by embargo placed against the billed destination or route thereto subsequent to acceptance of the shipment by carrier at point of origin.

Rules and Charges

Rule 1. *Transfers and waybills* covering shipments which have been diverted or reconsigned under these rules, should bear separate notation stating where and when the diversion

or reconsignment was effected, and charges if any were made.

Rule 2. *Freight rate applicable:* These rules and charges, will apply whether shipments are handled at local rates, joint rates, or combination of intermediate rates. The through rate to be applied under these rules is the rate from point of origin via the diversion, reconsigning or reforwarding point to final destination in effect on date of shipment from point of origin. If the rate from original point of shipment to final destination is not applicable through the point at which the car is diverted, reconsigned or reforwarded, in connection with this line, the Tariff rates in effect to and from the diversion, reconsigning or reforwarding point will apply, plus diversion or reconsigning charges.

Rule 3. *Demurrage and track storage rules.* Freight stopped, diverted, reconsigned or reforwarded under these rules will in addition be subject to demurrage and track storage charges lawfully in effect at point where stopping, diversion, reconsignment or reforwarding is accomplished.

Rule 4. (a) *Application:* The rules published herein, governing the diversion or reconsignment of freight, are applicable while the freight is in possession of this company also when it has reached billed destination on this line and has been delivered to switching road for placement.

(b) *Switching charges additional:* If diversion or reconsignment is made after arrival of car at billed destination and the car has been delivered to a connecting road, the switching charges of connecting road will be in addition to any other charge named herein.

(c) *Diversions or reconsignments beyond rails of this company:* When diversion or reconsignment is requested after shipment has passed out of possession of this company, or when request is received too late for this company to effect the change desired, such request will be transmitted to direct connecting carrier to which shipment was delivered, when the responsibility of this company will end; and the shipment will be subject to rules of the carrier on whose rails the diversion or reconsignment is accomplished (Except as per section *a* of this rule).

Rule 5. (a) *Only one change in destination* will be permitted by this company under these rules, except as provided in section *b*, and then only provided the car has not had a previous change in destination after leaving the initial billing point.

(b) If the consignor, consignee or owner requests a subsequent change necessitating movement of the car, the shipment will be treated as a reshipment from point of reforwarding and will be charged at the tariff rate therefrom, plus $5 per car.

(c) If a car is stopped short of billed destination after it has had one diversion or reconsignment under these rules, charges will be made on basis of the tariff rates to and from the point at which the first diversion or reconsignment was accomplished plus five dollars ($5) per car in addition to the other diversion or reconsignment charges previously accrued.

Rule 6. *Change in name of consignor.* The charge for a change in the name of consignor with no further change in billing instructions, will be $1 per car, except as provided in Exceptions paragraph *e*.

Rule 7. *Diversion or reconsignment in transit:* If a car is diverted or reconsigned in transit prior to arrival at original destination, or if the original destination is served by a terminal yard, then prior to arrival at such terminal yard, a charge of $2 per car will be made for such service.

Rule 8. *Stopping in transit:* If a car is stopped for orders for the purpose of delivery or diversion or reconsignment or reforwarding prior to the arrival at original billed destination, or if such destination is served by a terminal yard, then prior to arrival at such terminal yard, on request of consignor, consignee or owner, a charge of $2 per car will be made for such service and the point where the car is stopped will be considered the destination of the freight. If the car is subsequently forwarded from point at which held, the Provisions of Rules 9, 10, 11 or 12, as the case may be, will also be applied. The service of stopping as provided in this rule will not prevent one change of destination under the provisions of section *c* of Rule 5.

Rule 9. *Changed at destination on orders given before arrival:* If order for diversion or reconsignment is placed with local freight agent at billed destination or other designated officer, in time to permit instructions being given to yard employees prior to arrival at such billed destination, or if the original destination is served by a terminal yard, then prior to arrival at such terminal yard, a charge of $2 per car will be made for such service.

Rule 10. *Diversion or reconsignment to points outside switching limits before placement:* If a car is diverted, reconsigned or reforwarded on orders placed with local freight agent or other designated officer after arrival of car at original destination, but before placement for unloading, or if the original destination is served by a terminal yard, then after arrival at such terminal yard, a charge of $5 per car will be made if car is diverted reconsigned or reforwarded to a point outside of switching limits of original destination.

Rule 11. *Diversion or reconsignment to points within switching limits before placement:* A single change in the name of consignee at destination and (or) a single change in or a single addition to the destination of his place of delivery at destination will be allowed:

(a) without charge, if order is received in time to permit instructions to be given yard employees prior to arrival of car at destination, or if the destination is served by a terminal yard, then prior to arrival at such terminal yard.

(b) At a charge of $2 per car if such orders are received in time to permit instructions to be given to yard employees within twenty-four (24) hours after arrival of car at destination, or if the destination is served by a terminal yard, then within twenty-four (24) hours after arrival at such terminal yard. (See Note).

(c) At a charge of $5 per car if such orders are received subsequent to twenty-four (24) hours after arrival of the car at destination, or if the destination is served by a terminal yard, then subsequent to twenty-four (24) hours after arrival at such terminal yard.*

Rule 12. *Diversion or reconsignment to points outside switching limits after placement:* If a car has been placed for unloading at original billed destination and reforwarded therefrom without being unloaded, to a point outside of the switching limits, it will be subject to the published rates to and from the point of reconsignment, plus five dollars ($5) per car reconsignment charge, except that in no case shall the total charge be less than the charge based on the through rate from point of origin to final destination, plus $5 per car reconsignment charge.

Rule 13. *Diversion or reconsignment to points within switching limits after placement:* Cars that have been placed for unloading and which are subsequently reforwarded without being unloaded, to a point within the switching limits of the billed destination will not be subject to diversion or reconsignment charge, but will be subject to the switching or local rate in addition to the rate from point of origin to billed destination.

Rules and charges governing grain, seed (field), seed (grass), hay or straw, carloads, held in cars on track for inspection and disposition orders incident thereto at billed destination or at point intermediate thereto.

Grain, seed (field), seed (grass), hay or straw, carloads, may be held in cars on track for the privilege of National, State, Board of Trade or other official inspection and disposition orders incident thereto at billed destination or at a

*In computing time, Sundays and legal holidays (national, state and municipal) will be excluded. (When a legal holiday falls on Sunday the following Monday will be excluded.)

point intermediate thereto, subject to the following rules and charges. These charges shall be made in addition to demurrage, track, storage and other lawful charges, and shall accrue to the road performing the service and be noted on the waybill.

The term grain as used herein includes corn, barley, oats, rye, wheat, buckwheat, popcorn, grain screenings and seed screenings.

(Note.—The Southern Roads will apply the general diversion and reconsignment rules on commodities, specified above, diverted or reconsigned on their rails, at and south of the Ohio river and Potomac Yards).

Rules	Charge (See Note 1).
Rule 1. When disposition order is received prior to expiration of twenty-four (24) hours after first 7:00 a. m. after arrival,	$2 per car.
Rule 2. If disposition order is received subsequent to the period prescribed in Rule 1, but within seventy-two (72) hours after first 7:00 a. m. after arrival,	$2 per car for the first 24 hours plus a charge of $1 per car for each additional 24 hours or fraction thereof.
Rule 3. If disposition order is not received within the seventy-two (72) hour period prescribed in Rule 2,	$5 per car.

Note 1.—If delivery is taken and car is unloaded from track where inspected the above charges named in Rules 1, 2 and 3 will not apply.

Rule 4. In computing time, Sundays and legal holidays (national, state and municipal) will be excluded. When a legal holiday falls on a Sunday, the following Monday will be excluded.

Rule 5. For the purpose of disposing of car after it has been officially inspected the disposition order received after official inspection will be considered as being in lieu of consignment instructions under which car arrived at official inspection point.

Rule 6. If grain, hay, straw, field seed or grass seed, c. l., is held on track except for official inspection the general diversion and reconsignment rules published in I. C. C. No. —— or subsequent issue, will apply.

Rules and charges governing the diversion or reconsignment of coal and coke.

(To govern in the territory north of the Ohio and Potomac rivers and east of the Mississippi, including Kentucky, West Virginia and Virginia).

Application

Coal, except Lake Cargo and Tidewater Coal, Boulets or Briquets, or Coke (except Petroleum Coke) in carloads, may be diverted or reconsigned on this Company's lines, subject to the following rules, regulations and charges.

If request is made for diversion or reconsignment this company will make diligent effort to locate the shipment and effect diversion or reconsignment, but will not be responsible for failure to effect the diversion or reconsignment desired unless such failure is due to the negligence of its employees.

Definition

For the purpose of applying these rules, the term "Diversion" or "Reconsignment" means:

(a) A change in the name of the consignee.
(b) A change in the name of consignor (See Rule 6).
(c) A change in destination (See Rule 5).
(d) A change in route at the request of consignor, consignee or owner.
(e) Any other instructions given by consignor, consignee, or owner necessary to effect delivery which requires a change in billing or an additional movement of the car, or both (See section *b* of exceptions.)

Conditions

(a) Orders for reconsignments or diversion will not be accepted under these rules at or to a station or to a point of delivery against which an embargo is in force.

(b) Request for diversion or reconsignment must be made or confirmed in writing, and be accompanied by satisfactory evidence of ownership.

(c) *Prepayment or guarantee of charges:* All charges accruing under these rules must be paid or guaranteed to the satisfaction of the carrier by the person or persons requesting the diversion or reconsignment or reforwarding before shipments are forwarded.

Exceptions

No charge will be made:

(a) For a single diversion or reconsignment if order for such diversion or reconsignment is received at initial billing point before car leaves the yard at such initial billing point, provided the change involves no extra movement of the car.

(b) Where a car is placed for delivery at destination, and an order for the delivery of the contents thereof to other than the billed consignee is or has been presented to and accepted by the agent of this company at destination, and no change is involved in billing records, nor additional movement of car required.

(c) Where a change in route is made necessary by embargo placed against the billed destination or route thereto subsequent to acceptance of the shipment by carrier at point of origin.

Rules and Charges

Rule 1. *Transfers and waybills* covering shipments which have been diverted or reconsigned under these rules, should bear separate notation stating where and when the diversion or reconsignment was effected, and charges if any were made.

Rule 2. *Freight rate applicable:* These rules and charges will apply whether shipments are handled at local rates, joint rates, or combination of intermediate rates. The through rate to be applied under these rules is the rate from point of origin via the diversion, reconsigning, or reforwarding point to final destination in effect on date of shipment from point of origin. If the rate from original point of shipment to final destination is not applicable through the point at which the car is diverted, reconsigned or reforwarded, in connection with this line, the Tariff rates in effect to and from the diversion, reconsigning or reforwarding point will apply, plus diversion or reconsigning charges.

Rule 3. *Demurrage and track storage rules:* Shipments stopped, diverted, reconsigned or reforwarded under these rules will in addition be subject to demurrage and track storage charges lawfully in effect at point where stopping, diversion, reconsignment or reforwarding is accomplished.

Rule 4. (a) *Application:* The rules published herein are applicable while the shipment is in possession of this company also when it has reached billed destination on this line and has been delivered to switching road for placement.

(b) *Switching charges additional:* If diversion or reconsignment is made after arrival of car at billed destination and the car has been delivered to a connecting road, all switching charges of connecting road will be in addition to any other charge named herein.

(c) *Diversions or reconsignments beyond rails of this company:* When shipment has been delivered to connecting line before diversion or reconsignment can be accomplished, request to divert or reconsign should be made direct to such connecting line, except as provided in section *a* of this rule.

Rule 5. (a) *Only one change in destination* will be

permitted under these rules by this company, except as provided in section *b*, and then only provided the car has not had a previous change in destination after leaving the initial billing point.

(b) If the consignor, consignee or owner requests a subsequent change necessitating movement of the car, the shipment will be treated as a reshipment from point of reforwarding, and will be charged at the tariff rate therefrom, plus $5 per car.

(c) If a car is stopped short of billed destination after it has had one diversion or reconsignment under these rules, charges will be made on basis of the tariff rates to and from the points at which the first diversion or reconsignment was accomplished plus five dollars ($5) per car in addition to the other diversion or reconsignments charges previously accrued.

Rule 6. *Change in name of consignor:* The charge for a change in the name of consignor with no further change in billing instructions, will be $1.00 per car, except as provided in section *a* of Exceptions.

Rule 7. *Diversion or reconsignment in transit:* If a car is diverted or reconsigned in transit prior to arrival at original destination, or if the original destination is served by a terminal yard, then prior to arrival at such terminal yard, a charge of $2.00 per car will be made for the service.

Rule 8. *Stopping in transit:* If a car is stopped for orders for the purpose of delivery or reconsignment or diversion or reforwarding prior to the arrival at original billed destination, or if such destination is served by a terminal yard, then prior to arrival at such terminal yard, on request of consignor, consignee or owner, a charge of $2.00 per car will be made for such service and the point where the car is stopped will be considered the destination of the freight. If the car is subsequently forwarded from point at which held, the provisions of Rules 9, 10, 11 or 12, as the case may be, will also be applied. The service of stopping as provided in this rule will not prevent one change of destination under the provisions of section *c* of Rule 5.

Rule 9. *Changed at destination on orders given before arrival:* If order for diversion or reconsignment is placed with local freight agent at billed destination, or other designated officer, in time to permit instructions being given the yard employees prior to arrival at such billed destination, or if the original destination is served by a terminal yard, then prior to arrival at such terminal yard, a charge of $2.00 per car will be made for such service.

Rule 10. *Diversion or reconsignment to points outside switching limits before placement:* If a car is diverted, reconsigned or reforwarded on orders placed with local freight agent or other designated officer *after* arrival of car at original destination, but *before placement* for unloading, or if the original destination is served by a terminal yard, then after arrival at such terminal yard, a charge of $5.00 per car will be made if car is diverted, reconsigned or reforwarded to a point *outside* of switching limits of original destination.

Rule 11. *Diversion or reconsignment to points within switching limits before placement:* A single change in the name of consignee at destination and (or) a single change in or a single addition to the designation of his place of delivery at destination will be allowed:

(a) Without charge, if order is received in time to permit instructions to be given yard employees prior to arrival of car at destination, or if the destination is served by a terminal yard, then prior to arrival at such terminal yard.

(b) At a charge of $2.00 per car if such orders are received in time to permit instructions to be given to yard employees within twenty-four (24) hours after arrival of car at destination, or if the destination is served by a terminal yard, then within twenty-four (24) hours after arrival at such terminal yard.

Except that on shipments of coal originally consigned to accredited terminal coal pool associations and ordered delivered to final consignee within twenty-four (24) hours after arrival of car at terminal yard, there will be no charge.

(To be published only by roads reaching such pool points.)

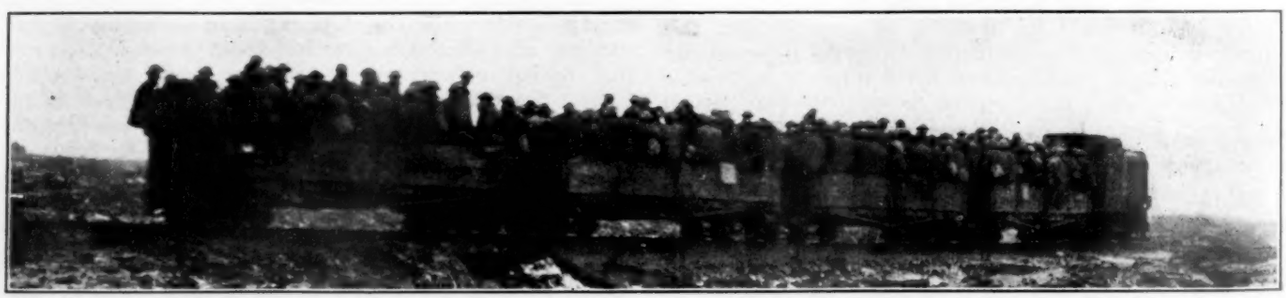
(c) A charge of $5.00 per car if such orders are received subsequent to twenty-four (24) hours after arrival of the car at destination, or if the destination is served by a terminal yard, then subsequent to twenty-four (24) hours after arrival at such terminal yard.

Note.—In computing time, Sundays and legal holidays, (national, state and municipal) will be excluded. When a holiday falls on Sunday, the following Monday will be excluded.

Rule 12. *Diversion or reconsignment to points outside switching limits after placement:* If a car has been placed for unloading at original destination and forwarded therefrom without being unloaded to a point outside of the switching limits, it will be subject to the published rates to and from the point of reshipment, plus five dollars ($5.00) per car reconsignment charge, except that in no case shall the total charge be less than the charge based on the through rate from point of origin to final destination, plus $5.00 per car reconsignment charge.

Rule 13. *Diversion or reconsignment to points within switching limits after placement:* Cars that have been placed for unloading and which are subsequently reforwarded without being unloaded to a point within the switching limits of the billed destination will not be subject to diversion or reconsignment charge, but will be subject to the switching or local rate in addition to the rate from point of origin to billed destination.

Note.—Where no switching tariff is in effect, the charge will be ten cents a ton of 2,000 pounds, minimum five dollars a car.



Photograph from Underwood & Underwood N. Y.

A British Working Party on a Light Railway

General News Department

The station of the Southern Railway at Sheffield, Ala., was destroyed by fire on the night of April 6; estimated loss $50,000. Two men suspected of setting the fire have been arrested.

Express companies, it is understood, are negotiating with the government on a plan by which instead of being taken over they will be allowed to consolidate and enter into a contract with the government.

Garland P. Robinson, assistant chief inspector of locomotives for the Interstate Commerce Commission has been appointed assistant manager of the locomotive section of the Railroad Administration.

The Interstate Commerce Commission has announced that it will make an investigation to determine the proper limits of the first, second, third and fourth zones of standard time created by the Daylight Saving law.

The Minneapolis, St. Paul & Sault Ste. Marie offers land free to persons who desire to cultivate it—more than 50,000 acres in small parcels—along its lines. Applications from employees will receive first consideration.

The ten women train auditors who have been working on the trains of the St. Louis-San Francisco during the past six months are said to have found the work too hard, and the company intends to set them at work in some other department.

Employees of the Chesapeake & Ohio have given to the Red Cross two army ambulances to be sent to France. The money for this gift, about $3,600, was contributed at various points on the company's lines all the way from Old Point Comfort to Chicago.

The senate committee on territories has announced that it will hold hearings on charges of mismanagement in the affairs of the Alaska Railroad before taking action on the nomination of **Thomas Riggs, Jr.,** a member of the Alaskan Engineering Commission, as governor of Alaska.

The Ann Arbor Railroad announces that it will resume car ferry service between Frankfort, Mich., and Menominee, Mich., and Marinette, Wis., on April 15. Connecting lines are requested to supplement their tariffs immediately as provided for by Rule 12, I. C. C. Tariff Circular No. 18A.

A. H. Smith, regional director, has issued an order to the presidents of the eastern railroads calling for advice as to the amount of their payments in 1917 for subscriptions to magazines and periodicals for distribution to officers and employees, showing the names of the publications, to whom furnished, and total cost.

At the request of the director general, the Interstate Commerce Commission has addressed a circular to the presidents of Class 1 carriers, asking them to furnish promptly information as to the deposit balances and cash on hand as of March 31, together with the amount of interest and dividend maturities on April 1 which were to be paid out of the balances reported as of March 31.

The railroad engineers in France are to be armed. In recognition of the excellent showing made by American railroad engineer troops in the battle of Cambrai and in recent engagements in Picardy, the War department has announced that special and auxiliary units of the army hereafter are to be armed. The railroad engineer units will be provided with rifles on the basis of 20 per cent of their enlisted personnel.

At Brunswick, Ga., the three principal railroads have consolidated both passenger and freight stations. The large freight houses of the Southern Railway are to be abandoned. The freight station of the Atlantic Coast Line will be used exclusively for outbound freight, and that of the Atlanta, Birmingham & Atlantic for inbound. The three roads will use the passenger station of the Atlantic Coast Line; and that of the Atlanta, Birmingham & Atlantic will be abandoned. T. J. Wright, general agent of the Atlantic Coast Line, has been appointed general agent of all three lines. A similar consolidation has been made at Waycross, Ga.

Representative Esch, of Wisconsin, has introduced in Congress a bill, H. R. 11243, to amend section 5 of the interstate commerce act, (the Panama Canal act), in accordance with the recommendations made by the Interstate Commerce Commission in its annual report, to authorize the Commission to permit continuance of the railroad ownership, control or operation of water lines when the commission finds that the discontinuance of such service will be of substantial disadvantage to the convenience and commerce of the people and localities affected. As the law now stands the commission, before authorizing the continuance of such control, must find that it will not reduce competition.

A fine of $8,420 was ordered by a jury in the county court at Lexington, Ky., April 4, as a penalty to be paid by the Louisville & Nashville Railroad for maintaining a common nuisance; this was the result of a trial of the road for allowing its trains to be run through the town of Sheperdsville at uncontrollable speed. It appears that there is no statute under which a satisfactory prosecution of the road could be made, and this suit was brought under common law procedure. The case against Engineman Wolfenberger, who was the runner of the express train which caused the Shepherdsville collision, was continued until the August term of the court, as some of the witnesses could not be brought into court at this time. The charge against Wolfenberger is involuntary manslaughter. The suit against the road was heard before Judge McCandless, and a motion for a new trial has been made. Acting on instructions by the judge, the jury dismissed the indictments against officers of the company.

Purchases of bituminous coal for the railroads, according to an announcement made at Washington this week, are to be managed exclusively through the office of the director general, at Washington, in co-operation with the Fuel Administration and with Bernard Baruch, chairman of the War Industries Board. How soon action will be taken is a question which, however, is left in the dark, as a difference of opinion is said to have arisen as to what prices should be paid. It is understood that when, recently, a number of railroads endeavored to renew their coal contracts at prices lower than those now prescribed by the government, Dr. Garfield took the position that the regular government prices should be paid. John Skelton Williams, director of purchases for the Railroad Administration, is said to have asked the coal operators to make new contracts with the railroads on the basis of about ten cents a ton above the cost of production.

Western Railway Club Meeting

At the monthly meeting of the Western Railway Club, which will be held at the Hotel Sherman, Chicago, on April 15, C. A. Greenough of the Baldwin Locomotive Works will present a paper on "Economy in Maintenance and Operation of Locomotives."

New York "Return-Loads Bureau"

The Merchants' Association of New York city is to establish a bureau for the benefit of long distance automobile truckmen and the merchants and manufacturers for whom they carry freight. Following the example which has been successfully carried out at Hartford and some other places, the bureau will provide telephone facilities so that a truckman bringing a load to New York can, with the least loss of time,

learn where he can find a load back to his starting point. The bureau will be simply a means of communication; it will have nothing to do with prices for transportation, and will not be liable either to truck owners or to merchants for safety of goods, insurance or anything else.

Car 302

The headquarters of the government railroad administration for the next couple of weeks will be in Car No. 302, in which Director General McAdoo is touring the country speaking on behalf of the Third Liberty Loan. Mr. McAdoo will be kept in constant touch by wire with the general headquarters in Washington, the car being fitted up as an office.

Webb Bill Passed

The Webb export trade bill, permitting American exporters to form combinations for the purpose of extending their foreign commerce, has finally been passed by both househ of Congress and was sent to the President on April 5. Export associations are made subject to the supervision of the Federal Trade Commission, which is given power to prosecute those guilty of unfair practices.

$2,500,000 in First Three Days

Although the Liberty Loan campaign inaugurated by the western regional directors' committee was not yet in full swing, in the first three days of the campaign seven roads reported subscriptions for $2,500,000, or an average of 85 dollars per employee. There are approximately 800,000 railroad employees in the western regional district. If this subscription average keeps up, the total for the western lines should reach close to $70,000,000.

Conferences on Railroad Compensation

The proposed standard form of contract for the compensation to be paid by the government to the railways is still the subject of numerous conferences between the lawyers representing the railroad companies and the representatives of the legal department of the Railroad Administration. Last week the conferences were on the proposed draft submitted by the railroad counsel. Beginning on Monday conferences have been held on another draft by Nathan Matthews, assistant to John Barton Payne, general counsel of the Railroad Administration.

Railroad Administration Safety First Section

H. W. Belnap, manager of the safety section, is perfecting his organization to supervise, correlate and organize the safety first work on all railroads utilizing the organizations already in existence and calling on safety officers of various railroads to cooperate in a consulting capacity. Rufus F. Jarnigan, assistant to the general safety agent of the New York Central; C. M. Anderson, safety superintendent of the Nashville, Chattanooga & St. Louis, and Harry J. Bell, safety inspector of the Chicago & Northwestern, have been appointed supervisors of safety for eastern, southern and western regions. A questionnaire has been sent to all railroads to ascertain the extent of safety first work, and reports sent in by the roads are being studied. The principal safety first officers recently were called to Washington and held an all-day conference with Mr. Belnap.

Questionnaire on Equipment Construction and Repair

At the request of the Director General of Railroads the Interstate Commerce Commission has addressed to the railroads a questionnaire asking for complete detailed information relating to repairs to and construction of equipment. Roads are asked to report whether their present shop facilities permit, in addition to properly making all necessary repairs to the present equipment, the construction of new locomotives, freight cars and passenger cars, whether they own or operate under subsidiary companies shops at which locomotives or cars are built or repaired, together with the normal monthly capacity of such shops and the period for which the capacity is engaged on work now in hand or authorized. Information is also desired as to whether it has been the practice to build any portion of the new equipment necessary to replace destroyed or retired locomotives or cars, the present monthly capacity of the shops for the construction of new equipment by classes, whether all necessary current repairs are made at company shops or by other railroads or at other than railroad shops. If such repairs have been made by other railroads during the past three years information is desired as to the terms under which the work was done. If they have been made by contractors information is requested as to the names of the contractors, the amount of work done and the detailed costs. If the repairs have been performed under express contracts complete information is asked regarding the contracts and in addition relating to prices of materials, labor costs, supervision of work performed, etc., which affect the aggregate costs of the work and will enable a comparison to be made with ordinary railroad shop operations, for the purpose of indicating economy on such repair work. Information is also asked as to repairs made at company shops for other railroads.

Government Investigating Railroad Insurance

Possibilities that the government may take over the business of insuring railroad property are seen in Circular No. 21, issued on April 8, by the Director General of Railroads, calling for information, covering the past three years, as to the general practice followed in the matter of insurance against loss or damage by fire both to railroad property and to other property in railroad custody. Pending a decision on this question, carriers are ordered not to negotiate any contracts of fire insurance covering a longer period than has heretofore been customary, nor in any event covering a period of more than one year, without special authority.

Extensive Use of Borrowed Locomotives

The following table while not strictly up-to-date will give some idea of the extent to which the railways are using other than their own locomotives:

Name of road	Number of Locomotives borrowed from other roads	U. S. A. Locomotives
B. & O.	38	..
B. & A.	12	..
C. R. R. of N. J.	17	11
C. & O.	6	7
C. C. C. & St. L.	6	5
D. & H.	3	..
Erie	27	25
G. R. & I.	2	..
Grand Trunk	3	..
L. E. & W.	7	..
Long Island	3	..
Mich. Cent.	2	..
N. Y. C. Lines	2	..
N. Y. N. H. & H.	3	..
N. & W.	12	15
Penn. Lines West.	64	11
Penn. R. R.	35	28
P. & R.	1	45
P. & L. E.	12	..
T. & O. C.	22	..
Virginian	4	10
W. & L. E.	11	..
Hocking Valley	..	10
A. C. L.	2	2
Mobile & Ohio	2	..
N. C. & St. L.	3	..
S. A. L.	1	10
Southern	3	10
C. & E. I.	18	..
C. M. & St. Paul	5	..
C. R. I. & P.	5	..
E. J. & E.	6	..
St. L. & S. F.	1	10
St. L. S. W.	2	..
S. P.—P. Sys.	11	..
Tex. & Pac.	3	..
Union Pacific	5	..
Totals	359	199

North Western's Contributions to Men Abroad

In a recent announcement to all officers and employees of the Chicago & North Western, R. H. Aishton, president, states that total contributions to the Christmas fund for the men of Company E, Thirteenth Engineers, made up of former North Western employees, amounted to $5,165. The cost of the Christmas presents forwarded to the men totaled $1,247. At the suggestion of the commanding officer of the company $1,005 additional was remitted to his credit to be used in buying extra kitchen equipment and to supplement the company mess. A more recent letter from him advises that a ballot has been taken of the men in the company and that a large majority voted favorably on the proposition that the balance of the money be placed to the credit of "Company Fund, Company E, Thirteenth Engineers, order of the Commanding Officer, and used to supplement the mess and in purchasing things not furnished by the Government." In accord with that request the balance of the fund amounting to $2,913 has been remitted to the men. In conclusion, Mr. Aishton says, "I have received word as to the receipt of the articles sent them (Company E) at Christmas, ex-

pressing the great pleasure and comfort afforded to them by this Christmas remembrance, and I take pleasure in extending to every subscriber of this fund on behalf of the men of Company E, thanks and appreciation."

New Quarters for the Railroad Administration

The United States Railroad Administration expects to have more commodious office quarters by the fall of this year. The government has bought the Arlington building in Washington, now under construction at the corner of H street and Vermont avenue, which will be used for the offices of a number of departments affiliated with the Treasury Department, and a considerable portion of the space is to be used for the Railroad Administration. Director General McAdoo and his staff are now located temporarily in the Interstate Commerce Commission building, but the space available is insufficient for the rapidly growing organization. In his letter to the President, recommending the purchase of the building, Mr. McAdoo said that the administration is seriously hampered even now for want of space and that this condition will grow more acute each day.

Regulation of Damage Suits Against Railroads

Director General McAdoo has issued an order designed to put a stop to the practice, so frequently resorted to by damage suit lawyers, of bringing suits against carriers in distant places. The order sets forth that the railroad control law provides (Section 10) "That carriers while under federal control shall be subject to all laws and liabilities as common carriers, whether arising under State or federal laws or at common law, except in so far as may be inconsistent with the provisions of this act or with any order of the President. . . . But no process, mesne or final, shall be levied against any property under such federal control"; and continues:

"Whereas it appears that suits against the carriers for personal injuries and freight and damage claims, are being brought in States and jurisdictions remote from the place where plaintiffs reside or where the cause of action arose; the effect thereof being that men operating the trains engaged in hauling war materials, troops, munitions, or supplies, are required to leave their trains and attend court as witnesses, and travel sometimes for hundreds of miles from their work, necessitating absence from their trains for days and sometimes for a week or more; which practice is highly prejudicial to the just interests of the government and seriously interferes with the physical operation of the railroads; and the practice of suing in remote jurisdictions is not necessary for the protection of the rights or the just interests of plaintiffs—

"It is therefore ordered, That all suits against carriers while under federal control must be brought in the county or district where the plaintiff resides, or in the county or district where the cause of action arose."

Circular on Relations with Labor

Director General McAdoo has issued the following circular to all railroads:

"My attention has been called to a report in reference to my General Order No. 8, in which it is stated that many officials of the railroads are filing strong protests with the Director General of Railroads because of the position he has taken in Official Order No. 8.

"It is only just that I should say that I have not received any protests from railroad officials because of Order No. 8.

"I feel that it is most important in this new era of railroading in America that railroad officials and railroad employees shall not live any longer in an atmosphere of suspicion and distrust. I earnestly desire to see them brought together upon a plane of mutual understanding and helpfulness because I believe that it is to the interest of both that this shall be accomplished and because I know that it will promote the efficient and safe operation of the railroads, and, more than all, that it will help the country immeasurably in this time of national peril. In my Order No. 8 I emphasized my desire that the old enmities of the past should be obliterated and that the common peril now confronting America should make friends and comrades of us all.

"I deeply appreciate the assurances of loyalty and patriotic support I have been receiving from railroad employees connected with all kinds of railroad work since the government took possession and control of the railroads. With the spirit of high purpose animating us all, from the humblest to the highest, I know that we can do a mighty work for America, and that we can win this war for liberty and democracy.

"Please bulletin this circular."

States Asked to Tax Roads Lightly

Director General McAdoo has addressed a letter to the governors of all the states, asking them to see that the tax burden on the railroads be made as light as consistent with the necessities of the states and their sub-divisions. He also made a plea for economy in state and local public expenditures requiring new capital. An effort was made to secure a provision in the railroad control bill prohibiting an increase of taxation during the period of federal control, but it was defeated in Congress. "Heretofore," wrote the director general, "railroad taxes have been paid entirely by the private owners of the railroads, but now these taxes will be paid by the government. * * * Manifestly in such circumstances the imposition of unnecessary state and local taxation on the railroads will be a distinct impediment to the carrying on of the war and an added burden upon the government."

Asks L. & N. Men to Be Good Soldiers

In an open letter to officers and employees of the Louisville & Nashville under date of March 29, Milton H. Smith, president, points to the importance of the railroads as carriers of troops and supplies during the war, and urges every employee to serve the government as loyally and as efficiently as he did the company under former conditions. The letter reads in part as follows:

"The property of this company will belong to the government as lessee . . . and every dollar now received or expended is the government's money. But with the property there passed as an asset of equal value the efficiency of an army of trained railroad men. Accordingly, the old organization of our company—its officials and employees—now constitutes a governmental agency engaged for the time being in the operation of this particular railroad system, but entirely subject to the supervision and direction of the director general or his duly constituted representatives.

"Necessarily, things will not be as they were. Mistakes, too, may occur as heretofore; but let there be no adverse criticism or disloyal spirit. If you have any suggestion which, in your opinion, will improve the service, tell it to your superior officer, who will report it to this department. If meritorious it will be brought to the attention of the regional director. The government will doubtless effect combinations of positions and adopt other methods of consolidation and retrenchment, which may necessitate dispensing with the services of some persons now in the company's employ. Regretable as this would be, it should be accepted as one of the exigencies of the war, for the winning of which each one of us must make whatever sacrifice is required.

"My chief pride in administering the affairs of this company in the past has been the splendid loyalty and efficiency of its officials and employees. It is still my earnest desire that, in this new relation, you maintain these distinctive characteristics to the highest degree. . . . The one great necessity that stands out pre-eminent above all others at home is an adequate transportation system. In undertaking itself to supply this the government has entered upon a huge experiment, the success of which is of vital importance. It *must succeed*, but it can do so only by the complete co-operation, absolute loyalty and devoted service of you and of men like you."

"Exceptional Fictional Instruction"

Must the railway folder go? The director of railways has ordered that "folders must be purely informative and contain no advertising of luxurious trains, claims of superior service or extraneous matter of any description." Thus another of the works of peace feels the blight of the war. The railway folder was a characteristic and highly developed expression of American literary genius. It was in the best sense educational as well. Many persons learned most of what they knew of American geography from a rapt perusal of folders while traveling or waiting for trains, and it was possible from a judicions selection of them to gain a liberal education in pictorial art and literature and American history as well as exceptional fictional instruction. It is to be hoped that their educational uses will save them from complete denaturing. Railway folders have contributed too much to the gayety of travel and the increase of popular intelligence to be sacrificed to anything but the most urgent of economies.—*New York World.*

Dictator General on Relations with Labor

Director General McAdoo has given out the following letter written by him on April 2 to President Wharton of the Railway Employees Department of the American Federation of Labor:

"My attention has been called to a circular sent out by you * * * in which it is stated that 'it has come to our knowledge that many officials of the railroads are filing strong protests with the director general of railroads because of the position he has taken in Official Order No. 8.

"It is only just that I should tell you that I have not received a single protest from any railroad official because of Order No. 8. I should be glad if you would let your membership know that this is true.

"I feel that it is most important in this new era of 'railroading' in America that railroad officials and railroad employees shall not live any longer in an atmosphere of suspicion and distrust. I earnestly desire to see them brought together upon a plane of mutual understanding and helpfulness, because I believe that it is to the interest of both that this shall be accomplished and because I know that it will promote the efficient and safe operation of the railroads, and, more than all, that it will help the country immeasurably in this time of national peril. You will recall that in my Order No. 8 I emphasized my desire that the old enmities of the past should be obliterated and that the common peril now confronting America should make friends and comrades of us all.

"I need not tell you how deeply I appreciate the assurances of loyalty and patriotic support I have been receiving from railroad employees connected with all kinds of railroad work since the government took possession and control of the railroads. With the spirit of high purpose animating us all, from the humblest to the highest, I know that we can do a mighty work for America, and that we can win this war for liberty and democracy.

"Will you now be good enough to circulate this letter among all the members of your organization? I shall also direct the officers of the railroads to put it on the bulletin boards of their respective systems."

The I. C. C. and the Overman Bill

Possibility of the exercise by the President of the powers conferred by the Overman bill to destroy the Interstate Commerce Commission was discussed in the Senate during the debate on the bill on April 3 and 4. The bill would authorize the President to co-ordinate or consolidate executive bureaus, agencies and offices in the interest of economy in the more efficient concentration of the government by making a redistribution of their functions. Provision is made that the act shall remain in force only during the continuance of the war and for a year after its termination. Senator Cummins declared that under this bill the President could transfer all the powers and functions of the Interstate Commerce Commission to the Federal Reserve Board or the Federal Trade Commission, or to any officer, agency or department of the government; and that he might transfer the functions of the Interstate Commerce Commission in the valuation of railroad property to any person he might select for that purpose. It was intimated during the debate that since the Interstate Commerce Commission by the provisions of the railroad control law was specifically given final authority in rate-making matters, the President might desire to have the power over the commission which the bill would provide. Senator Cummins had introduced an amendment to confine the possible reorganization under the bill to the executive departments, with the exception of the department of justice, but it had been voted down in the committee, as had an amendment proposed by Senator Reed of Missouri, specifically excluding the Interstate Commerce Commission. Senator Overman, who defended the bill, insisted it was necessary to give the President the power to take such action as necessary during the war, although he would not say that it would be necessary for the purposes of the war to interfere with the Interstate Commerce Commission. He declared that in the railroad bill Congress has given the President much greater powers than it is proposed to give him in this bill, but so far as the valuation is concerned, he said that $12,000,000 had been wasted. Senator Reed insisted that no reason had been offered for granting the President the power to transfer the authority of the Interstate Commerce Commission to some individual, and referred to the significance of the fact that members of the committee had voted against an amendment specifically intended to exclude the Interstate Commerce Commission from the operation of the bill. Senator Lewis of Illinois declared that the Interstate Commerce Commission had reached the end of its usefulness when the government took over the railroads, and that in many instances the commission might be an obstruction which would defeat the very object of the law putting the railroads in the hands of the President.

"I wish to express my concurrence in the view of the Senator from Minnesota," he said, "that the privilege that remains in the hands of the President under the bill presented by the Senator from North Carolina should not be interfered with by any power previously granted to the Interstate Commerce Commission."

International Railway General Foremen's Association

At a meeting of the executive committee of the International Railway General Foremen's Association it was decided to postpone the annual convention for 1918. This action was taken in consideration of the great demand for locomotives and cars and the need under present conditions of constant and increased supervision in the railroad shops. In order to maintain the continuity of the annual publications of the society, it was decided to compile and publish a year book. Five questions have been submitted to the members, each of whom is requested to express his opinion or give his experience on each question in writing to the secretary.

Foreign Trade Convention Next Week

One of the interesting facts in connection with the organization of the Fifth National Foreign Trade Convention, which will be held at the Gibson Hotel, Cincinnati, Ohio, April 18, 19 and 20, will be the further organization this year of the group sessions idea, with a view to having as many subjects handled by the case method as possible. By this group session method it is planned to make further use of the practical and personal experience of participants in foreign trade, and also to interest a larger number of the smaller manufacturers in the opportunity for foreign trade.

Another special feature in connection with the convention this year will be the greater use of the volunteer trade advisers and of the government representatives. There will be a special committee in charge of the work of the government and volunteer trade advisers, who will be available for consultation during the period of the convention.

The theme of the convention is "The Part of Foreign Trade in Winning the War," and the program as announced gives many speakers of national prominence, including: James A. Farrell, president of the United States Steel Corporation; Edward N. Hurley, chairman of the United States Shipping Board; Fred I. Kent, of the Bankers Trust Company, New York; J. J. Donovan, of the Blodel-Donovan Lumber Mills, Bellingham, Wash.; E. A. S. Clarke, president, Lackawanna Steel Company; C. A. Hinsch, president of the American Bankers Association; A. C. Bedford, Standard Oil Company of New Jersey; M. E. Farr, president, American Shipbuilding Company, Cleveland; George H. Charls, American Rolling Mills, of Middletown, Ohio; John Clausen, of the Crocker National Bank of San Francisco; George H. Smith, president of the American Manufacturers' Export Association; J. K. Armsby, president, California Packing Corporation; W. D. Wheelwright, president, Pacific Export Lumber Company, of Portland, Ore.; Frederick J. Koster, president, Associated Chambers of Commerce of the Pacific Coast; J. Louis Schaefer, of W. R. Grace & Co.; W. E. Tarlton, of the Brown Shoe Company of St. Louis; Percival Farquhar, president of the Brazil Railways Company; Thomas L. Chadbourne, counselor to the War Trade Board; Burwell S. Cutler, chief of the Bureau of Foreign & Domestic Commerce, and F. W. Tausig, chairman of the United States Tariff Commission.

Merchants and manufacturers who are desirous of receiving invitations to attend the convention at Cincinnati are requested to send their names and addresses to O. K. Davis, secretary, National Foreign Trade Council, 1 Hanover Square, New York City.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY, 1918

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses						Operating ratio.	Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
					Maintenance of										
		Freight.	Passenger.	Total (inc. misc.)	Way and structures.	Equipment.	Traffic.	Transportation.	General.	Total.					
Alabama Great Southern	312	$342,031	$159,762	$544,012	$44,101	$133,097	$14,101	$229,538	$11,964	$436,325	80.21	$107,687	$20,713	$86,971	—$76,962
Ann Arbor	294	176,533	35,862	229,469	31,737	53,794	5,611	127,447	9,308	228,558	99.60	910	13,100	—12,190	—59,355
Atlanta, Birmingham & At.	639	256,826	57,289	340,273	59,780	77,215	11,297	165,561	11,253	325,162	95.56	15,111	15,700	—615	—45,527
Atlantic Coast Line	4,786	2,648,133	1,263,964	4,213,955	416,207	661,585	64,011	1,702,751	86,621	2,949,439	70.00	1,264,516	160,000	1,103,993	—182,053
B. & O. Chicago Terminal	79	.....	271	72,645	51,143	34,874	924	90,731	9,377	189,714	261.15	—117,069	18,360	—135,429	—91,541
Balto., Chesp. & Atl.	88	7,199	2,192	9,547	4,984	13,108	2,112	32,716	2,828	55,748	593.93	—46,200	2,350	—48,550	50,185
Bangor & Aroostook	632	241,443	63,476	322,039	75,754	60,340	3,985	161,370	11,892	317,685	98.65	4,354	17,735	—13,381	—157,757
Bessemer & Lake Erie	208	401,974	28,144	461,674	72,009	266,518	9,836	306,779	19,929	644,836	139.67	—183,162	73,266	—206,429	—199,325
Birmingham Southern	44	92,496	1,634	117,311	16,030	29,351	907	60,553	3,787	110,628	94.30	6,683	3,565	3,119	—5,810
Buff. & Susq. R. R. Corp.	252	184,906	5,946	193,664	26,182	48,164	1,534	76,843	6,997	159,720	82.47	33,944	4,100	29,844	2,438
Charleston & West. Carolina	342	148,369	49,570	209,747	30,471	24,089	4,345	97,798	5,423	161,126	76.82	47,621	9,000	38,617	—3,318
Chicago & Alton	1,052	801,246	325,976	1,233,626	226,501	368,753	32,984	719,436	35,088	1,395,470	113.12	—161,845	54,195	—216,395	—572,519
Chicago & Erie	269	390,383	43,720	502,814	403,959	123,738	15,916	401,796	17,800	965,766	192.07	—462,952	25,752	—488,704	—589,249
Chicago & Northwestern	8,094	4,223,035	1,837,608	6,809,603	1,485,600	1,719,953	112,157	3,920,331	192,181	7,481,671	109.87	—672,067	420,000	—1,095,312	—2,913,027
Chicago, Burl. & Quincy	9,373	6,353,051	1,934,772	9,108,705	963,638	1,954,049	130,189	4,060,900	255,715	7,480,222	82.12	1,628,483	468,430	1,160,053	—2,029,969
Chicago Junction	13	.....	.....	193,939	73,852	31,142	1,484	167,624	6,841	306,067	157.81	—112,128	3,756	—115,884	—131,752
Chicago, Rock Is. & Gulf	474	253,618	83,874	358,603	32,683	43,838	8,475	128,409	9,867	224,566	62.62	134,038	13,155	120,855	34,623
Chicago, Rock Is. & Pacific	7,824	3,924,912	1,879,599	6,308,300	847,175	1,475,314	132,114	3,236,087	175,981	5,891,543	93.39	416,757	356,235	59,747	—1,293,147
Chicago, St. Paul, Minn. & Omaha	1,749	1,093,417	432,781	7,659,116	123,148	301,747	27,329	1,017,310	45,611	1,527,781	19.95	131,336	95,548	35,367	—328,529
Chicago, Terre Haute & Southeastern	374	191,851	17,691	217,867	41,486	95,487	2,377	137,732	10,216	291,713	133.89	—74,425	12,500	—86,925	—164,113
Cin. Northern	246	122,963	12,649	140,043	29,240	50,197	2,935	74,198	3,490	160,036	114.28	—19,994	7,567	—27,564	—75,248
Cleve., Cin., Chic. & St. Louis	2,387	2,355,237	845,988	3,533,021	435,009	806,172	75,691	2,015,160	90,155	3,450,040	97.65	82,982	172,447	—89,855	—963,993
Colorado & Wyoming	42	27,706	2,771	77,277	7,312	17,172	75	36,730	4,673	65,961	85.36	11,316	5,000	6,316	—33,690
Denver & Rio Grande	2,557	1,846,970	355,738	2,342,478	210,894	574,812	33,470	905,275	63,958	1,817,558	77.59	524,920	110,000	414,875	—281,246
Denver & Salt Lake	225	49,980	9,124	63,671	43,835	59,914	1,185	47,073	3,178	155,178	243.72	—91,507	9,000	—100,807	—80,607
Det., Toledo & Ironton	441	79,005	6,716	97,815	36,476	59,646	3,260	113,546	8,990	221,918	226.88	—124,103	8,500	—132,615	—162,759
Duluth, South Shore & Atl.	601	184,796	72,637	273,307	59,057	52,509	5,868	171,730	8,450	301,653	110.37	—28,346	19,000	—47,346	—86,793
Elgin, Jol. & East	805	730,393	4	860,545	225,412	299,675	6,018	505,279	27,573	1,063,877	123.63	—203,331	56,773	—254,104	—544,871
Erie	1,989	3,210,950	636,943	4,534,628	670,535	1,636,198	83,045	3,091,643	139,434	5,665,353	124.94	—1,130,725	197,350	—1,328,100	—1,484,915
Galvest. Wharf	13	.....	.....	76,610	986	1,129	284	21,098	664	43,722	57.07	32,888	12,300	20,588	—40,812
Gulf, Mobile & Northern	402	131,349	31,320	171,631	22,870	36,218	5,354	65,966	8,834	139,252	81.13	32,379	9,902	22,476	—27,303
Kansas City, Mexico & Orient	272	84,969	12,176	103,079	14,561	31,355	4,694	55,072	6,295	111,978	108.63	—8,899	6,250	—15,149	—4,452
Kansas City, Mexico & Orient of Tex.	465	89,928	12,864	108,534	19,104	29,579	4,183	52,693	3,601	109,160	100.58	—626	5,000	—5,708	—6,128
Lake Erie & Western	900	448,399	48,294	522,477	80,484	140,678	12,579	301,002	16,282	551,026	105.46	—28,548	25,000	—53,683	270,541
Lehigh & Hudson River	96	138,305	4,104	148,702	16,729	29,374	1,449	78,730	4,379	130,662	87.87	18,040	6,000	12,040	—29,132
Lehigh & New Eng.	297	179,674	1,451	197,218	38,091	54,604	2,552	100,825	7,285	203,320	103.09	—6,102	8,698	—14,800	—115,157
Louisiana & Arkansas	302	101,056	26,793	133,291	17,740	21,700	3,377	48,096	4,974	95,888	71.94	37,404	9,995	27,407	6,346
La. R. & Navig. Co.	356	147,023	50,678	207,839	26,793	25,629	4,661	101,859	6,901	165,843	79.79	41,995	14,000	27,965	—27,686
La. Western	207	197,422	95,485	311,095	15,879	36,590	7,446	81,163	8,175	151,708	48.77	159,388	14,605	144,674	36,504
Michigan Cent.	1,861	2,128,386	896,170	3,511,838	543,747	829,292	67,137	2,002,473	85,696	3,612,225	102.86	—100,387	141,300	—242,720	—1,100,731
Midland Valley	386	170,331	53,605	237,500	42,531	32,474	2,514	104,753	10,588	192,860	81.20	44,640	6,827	37,812	—15,749
Mineral Range	100	92,581	2,636	97,938	17,742	20,477	572	59,633	1,119	99,542	101.64	—1,610	3,304	—4,910	—7,641
Minneapolis & St. Louis	1,646	661,232	153,986	875,021	122,834	153,713	18,194	441,485	23,769	760,032	86.86	114,990	45,801	68,872	—108,986
Minneapolis, St. P. & S. Ste. Marie	4,227	1,273,497	526,011	1,984,971	245,220	434,587	39,770	1,134,394	65,150	1,929,004	97.18	55,967	166,329	—110,371	—887,024
Missouri & North Ark.	365	54,323	31,145	93,487	17,715	23,471	2,864	50,095	5,529	99,544	106.48	—6,057	5,625	—11,889	—40,667
Missouri, Kansas & Texas Sys.	3,869	2,263,688	1,101,985	3,620,754	573,983	863,146	64,440	1,665,255	132,882	3,320,608	91.71	300,146	173,682	125,998	—278,821
Missouri Pacific	7,301	3,934,861	1,396,008	5,870,844	841,408	1,180,229	115,250	2,697,842	151,876	5,001,177	85.19	869,667	269,580	599,069	.....
Mobile & Ohio	1,159	798,824	119,120	980,591	115,952	285,831	36,975	477,635	31,928	948,321	96.71	32,269	44,996	—12,840	—298,169
Monongahela Connecting	5	.....	.....	131,084	19,361	25,459	386	79,660	4,372	129,238	98.59	1,846	2,132	—286	—47,135
Morgan's La. & Tex. R. R. & S. S. Co.	400	414,480	144,120	597,357	57,817	83,513	11,120	209,617	14,245	379,122	63.47	218,235	29,581	188,229	10,510
Nevada Northern	168	206,754	15,406	227,134	17,783	22,559	832	53,795	5,232	100,236	44.13	126,897	10,398	116,499	18,392
New Orleans & North Eastern	203	294,156	109,342	457,216	45,616	93,010	9,328	198,516	9,942	359,949	78.73	97,717	27,667	69,592	—61,702
New York, Chic. & St. Louis	571	868,683	70,747	987,810	191,286	256,733	42,882	697,050	39,583	1,231,320	124.65	—243,510	57,500	—301,010	—508,552
New York, Phila. & Norfolk	121	244,137	63,349	343,829	40,899	80,047	7,929	212,182	10,982	364,901	106.13	—21,073	13,763	—34,836	—165,524
New York, Susq. & Western	135	183,806	41,018	251,013	34,085	40,987	2,440	188,560	6,435	272,507	108.56	—21,494	—12,747	—34,241	—88,349
Norfolk & Western	2,085	3,874,054	694,242	4,787,904	588,842	1,295,366	60,268	2,078,052	110,370	4,150,221	86.68	637,683	272,000	365,509	—1,501,534
Penn. R. R.	5,284	11,686,793	5,531,492	19,467,108	3,461,407	5,455,337	291,068	11,226,691	616,835	21,435,256	110.11	—1,968,147	847,051	—2,816,910	—6,321,694
Peoria & Pekin Union	19	18,265	5,913	80,274	11,508	17,642	.....	70,635	3,273	103,057	128.38	—22,783	9,475	—32,258	—35,259
Pitts. & Lake Erie	225	1,476,416	177,760	1,810,293	312,823	440,459	14,609	785,622	40,177	1,599,645	88.07	210,648	113,200	97,447	—401,101
Pitts. & West Va.	63	112,950	8,229	133,148	18,146	38,331	1,231	48,210	6,392	124,204	93.28	8,944	19,224	—10,280	.....
Pittsburgh, Shawmut & North	204	122,805	6,176	131,745	17,430	46,896	1,118	79,234	4,564	149,242	—113.28	—17,497	1,805	—19,302	—25,837
Rutland	415	179,373	84,217	309,969	34,605	72,965	7,771	180,183	8,214	304,953	98.38	5,017	18,063	—13,047	—75,317
St. Joseph & Grand Isl.	257	158,318	31,569	201,156	51,385	26,064	2,997	85,231	6,587	172,444	85.73	28,711	8,607	20,105	—15,174
St. Louis Southwestern	968	694,557	170,715	903,080	97,579	163,617	31,806	275,070	31,770	602,371	66.70	300,709	33,708	266,813	—189,929
Southern in Miss.	278	61,476	50,655	121,498	21,720	10,352	1,777	54,796	3,959	92,603	76.22	28,895	9,000	19,895	13,406
Southern Pacific	7,102	7,757,954	2,822,468	11,543,378	1,280,572	1,969,223	162,389	5,146,602	276,206	9,026,179	78.19	2,517,199	579,143	1,936,641	—535,398
Tennessee Cent.	292	90,908	28,075	127,119	15,786	29,903	3,735	75,116	7,189	131,729	104.63	—4,611	5,286	—9,897	—36,031
Texarkana & Ft. Smith	81	72,226	14,968	95,136	8,037	4,148	2,684	38,236	3,970	56,581	59.47	38,555	9,152	29,401	—16,182
Texas & New Orleans	470	373,993	134,583	562,360	47,438	111,746	8,096	207,979	11,863	407,936	72.54	154,423	23,000	131,278	—55,753

Traffic News

The eighteen passenger and freight agents of American railways having offices in Toronto have called in their traveling agents; it is expected that shortly their offices will be closed.

Complying with the order of the director general of railroads, calling for the discontinuance of outside traffic agencies, the Texas & Pacific and the International & Great Northern have closed all offices off their lines.

The Long Island Railroad has announced that freight in less than carload lots will be received on only three days a week. This rule applies at all of the company's stations, the days for receiving at different stations being announced in circulars to all interested. Where a shipping day falls on a legal holiday freight will be accepted on the day preceding.

The Fuel Administration officials are again complaining of a shortage of cars, although the Geological Survey reports show an increase in production compared with last year since the early part of February, and an almost steady increase since January 19. In the week ended March 23, the percentage of full time output lost on account of car shortage was 20.6, which is no greater than it has been for a long time.

The car service section of the United States Railroad Administration has issued a bulletin to all railroads calling their attention to the fact that the situation in the Southeast with respect to ventilated and refrigerator cars for the transportation of the early perishable crops is fast becoming acute and that energetic measures must be taken in order to keep up the supply of suitable cars. The necessity for returning promptly the cars owned by roads in that territory is strongly urged.

The production of bituminous coal and lignite (including coal made into coke) in February, 1918, according to the bulletin of the Geological Survey, is estimated at 42,438,000 net tons, an increase of 2,126,000 tons, or 5 per cent, compared with February, 1917. The production in the first two months of 1918 was, however, approximately 3,000,000 tons less than in the same months of 1917, because of the very low production in January, 1918, compared with the record month of January, 1917. The estimated average production per working day in February, 1918, was 1,783,000 net tons, compared with 1,643,000 tons in January, 1918, and 1,753,000 net tons in February, 1917. The average daily production in February, 1918, was slightly greater than the average for all 1917.

General Travel Conditions

In these days the traveler is jostled on every hand. Street cars seem everywhere filled to strap-hanging capacity; elevators are speeded to care for unusual numbers; automobiles, public and private, rush through crowded streets in increasing volume; sidewalks seem to have rush-hour crowds at all hours of the day; stores are filled with bargain counter patronage; theatres offer standing room only to late comers; railway coaches and Pullmans often have no space for belated passengers. Such is the traveler's barometer of the speed to which our national life has attained.

No doubt we are, as a people, going the pace that exhausts if it does not kill, but luckily, the usual vacation season, with its customary temptations to leisure, will be upon us soon, and in the meantime our social and economic life has been in large measure readjusted to the new conditions which the war has thrust upon us. The new grooves are being worn to a point where some sense of stability is acquired, and we shall dare to relax and accept the opportunity for necessary respite. The interest of the transportation world is naturally centered upon the development of the railroads under government control. The public has evinced not only a lively but a sympathetic and helpful interest in the government's work. The government has moved with skill and rare good judgment, carrying with it the confidence and the loyal support of the railway officials and employees and of the traveling public. —*American Express Co.'s Travel Bulletin.*

Commission and Court News

Interstate Commerce Commission

The application proposes increases in the present rates on lumber to Omaha, South Omaha, Lincoln, Neb., Council Bluffs and Des Moines, Iowa, and to certain intermediate points.

The commission has issued an amended order outlining the procedure to be followed in filing fifteenth section applications for permission to file tariffs containing increased rates.

The Commission has further postponed its order in the reconsignment case from April 1 to May 1 on account of the inability of the carriers to get their tariffs ready for filing.

Fifteenth Section Application No. 4829, filed by F. A. Leland in behalf of Southwestern Lines for authority to make increases in rates on lumber in order that petitioners may comply with the order of the commission in Docket No. 8301, has by direction of the commission been assigned to the formal docket under Docket No. 10121.

Fifteenth Section applications filed by the Michigan Central for authority to file increased switching charges at Detroit, Mich., and to establish a charge of 25 cents per 100 lb. on l. c. l. shipments of freight between stations in the Detroit, Mich., switching district have been consolidated and assigned to the formal docket under Docket No. 10116.

The Pennsylvania Railroad has filed applications with the Commission for permission to cancel its special-train excursion fares from Philadelphia and Camden to Atlantic City, Egg Harbor and Ocean City, N. J., also its special one day excursion fares from New York to Asbury Park, Ocean Grove, Point Pleasant or Sea Girt, N. J., also to cancel the week-end roundtrip excursion rates of $1.50 between Washington and Baltimore.

The Pennsylvania has also filed an application for permission to file a tariff establishing an excess train fare of 5 cents, to be retained by the railroad, in addition to the usual one-way ticket fare, for passengers boarding trains without valid tickets or equivalents, in lieu of the present charge of 10 cents in addition to the regular tariff fare, which is redeemable on presentation of the excess check. The proposed excess fare would not be collected from stations where tickets could not be bought.

Court News

Twenty-eight Hour Law

The Circuit Court of Appeals, Third Circuit, holds that, under the Twenty-eight Hour Law, a railroad company which, knowing that its lines were congested and delays were imminent, took a chance when the margin of safety was small, in attempting to transport cattle through to their destination without unloading and feeding, must, the animals having been confined beyond the prescribed time before they reached the destination, be deemed to have knowingly and wilfully violated the act, and so was liable for the penalty.—P. & R. v. United States, 247 Fed., 466. Decided January 16, 1918.

Conductor's Power to Arrest

The West Virginia Supreme Court of Appeals holds in an action against a railroad for false arrest that a conductor, as a conservator of the peace, has authority under the West Virginia statute to arrest without a warrant and eject from a car conveying passengers any person who in his presence and the presence of passengers contends with angry words to the disturbance of the public peace and tranquility; and an instruction telling the jury a conductor has no such right is erroneous. The passenger arrested had twice attempted to force his way into a coach while the vestibule, platform and

steps were occupied by passengers in the act of alighting, and on being detained by the conductor used the abusive language which led to his arrest. Judgment for the plaintiff was reversed.—Marcuchi v. Norfolk & Western (W. Va.), 94 S. E., 979. Decided January 29, 1918.

Loss of Valuables in Dining Car—Contributory Negligence

In an action to recover for jewelry left in a dining car the plaintiff claimed that she put the jewelry, of the value of about $1,500, in a handkerchief and tied up the handkerchief, and while in the dining car put the package on the dining table. She previously had it in a mesh bag, but had taken it out, apparently to use the handkerchief, although it contained the diamonds. She swore that when she left the dining table she left the handkerchief, with the diamonds in it, on the table, having thrown her napkin over it without noticing it. In about 20 minutes she discovered her loss and came back. She claimed to have shown that no one else could have come near this table, or taken these diamonds, except the defendant's servants, and therefore theft was shown on their part; and that, as well as the defendant's negligence, was the basis of a verdict and judgment in her favor. This has been reversed and a new trial granted by the New York Appellate Division for the following reason: "There is no sufficient proof of theft. No man is presumed to have committed a crime—the presumption is otherwise. Even if there be some evidence of the defendant's negligence, it is very slight, and I doubt if there be enough here to charge defendant with the loss of the diamonds. It is not at all impossible that she may have taken the handkerchief back with her into the other car and lost it on the way, or dropped it, or that the handkerchief may have been taken by the woman companion, even after she got back into the other car. The plaintiff's only cause of action here is for negligence, and I am unable to see why the contributory negligence of the plaintiff is not a complete defense; if not so as matter of law, certainly shown by the great weight of evidence. The jury might say that it was contributory negligence on her part to place a handkerchief containing $1,500 worth of jewelry on the table and leave it in the dining room upon returning therefrom."—Barden v. New York Central, 168 N. Y. Supp., 742. Decided January 18, 1918.

Hours of Service Act: Effect of War

In an action under section 2 of the Hours of Service Act it appeared that enginemen and firemen employed on pushing engines, had much unoccupied time, and the plan was adopted of relieving them entirely, between trains, from all work or care of their engines. Though subject to call they were given opportunity to recuperate in rest houses, and in some places were allowed, though subject to call, to go to lodgings and elsewhere. The Circuit Court of Appeals, Third Circuit, held that, though the Hours of Service Act is remedial and for the benefit of travelers, yet, in view of the adoption of the plan while the United States was engaged in the prosecution of a war, making great demands upon its railroads, and of the fact that the crews of the pushing engines were relieved of all duties while awaiting other trains, it cannot, as a matter of law be declared that the defendant violated the act, although such employees, if the rest periods during which they received pay and were subject to call be counted, worked more than 16 consecutive hours a day; but that question can only be determined by consideration whether the periods off were restful. As the act declares that it shall be the duty of the Interstate Commerce Commission to enforce its provisions, and all powers granted to the commission are extended to it in the execution of such act, it was said that the commission should promulgate a practical working scheme for compliance with the act, instead of leaving railroad companies to determine at their peril whether their plan violates the act; and such procedure should be followed in preference to prosecutions under the act; this being particularly true where, as a war measure, a railroad company is attempting to operate at maximum capacity. Judgment against the railroad was reversed and the cause remanded for further proceedings.—Pennsylvania v. United States, 246 Fed. 881. Decided December 19, 1917.

Equipment and Supplies

Railway supplymen will be particularly interested in the following articles in this week's issue:

Standard Locomotives Will Mean a Waste of Material, page 959.
Express Your Views on Standardization, page 959.
George A. Post and the Railway Business Association, page 960.
Two Great Industries—An Analogy, page 961.
Railway Business Association Discusses Problems, page 963.
Railroad Administration's Motive Power Problems, page 965.
Our Foreign Trade in Railway Supplies, page 983.

Government Cars and Locomotives

The placing of contracts for government cars is being somewhat delayed by conferences with the War Industries Board as to the possibility of using steel and lumber which may be needed for ship building. The War Industries Board has the determination of priority on such matters. The question of prices for cars is also still under consideration between the builders and the division of purchases.

It was expected that contracts for approximately 100,000 freight cars, to be ordered by the Railroad Administration from the standard specifications which have been described in these columns, might be placed by the end of this week, but there have been some delays incident to the negotiations as to prices between the car builders and the Division of Purchases, which apparently is making an effort to drive a close bargain, and to the conferences which have been held with the War Industries Board regarding the procurement of the steel and other materials. The War Industries Board has charge of the co-ordination of the demands of various departments of the government for raw materials and the requirements of lumber and steel for the cars must be considered in connection with the requirements of materials for shipbuilding, as 100,000 cars would require approximately 575,000 tons of steel plates alone, to say nothing of the shapes, bars, etc.

Tentative prices were submitted by the car builders, and a meeting to consider them was held between the builders and John Skelton Williams, director of the Division of Purchases, last week. Another meeting was held on Tuesday of this week at the call of Mr. Williams, who, it is understood, made numerous inquiries as to the profits and cost of the various companies.

A conference with the manufacturers of car specialties is expected to be held at an early date at which they will be asked to submit figures as to their costs. At a similar meeting held last week with the manufacturers of locomotive specialties at the call of the central purchasing committee of the Railroad Administration, they were asked to pool their patents and allow various plants to turn out patented devices without royalties. This idea aroused considerable opposition at the meeting and information was asked as to whether the suggestion came in the form of a request or whether it represented a definite policy. A final answer to the question was not forthcoming and it is understood that the matter has not yet been definitely determined, but it is said that Mr. Williams expects to take advantage of the fact that the government is now practically the sole purchaser to depress prices to a minimum—6 per cent above cost has been suggested. Some manufacturers have raised the point that they are under contractual obligations to pay royalties to the inventor, while others own their own patents and make no calculation for any royalty except as is represented by a return on their capitalization.

Whether the purpose of the Administration extends to cases where the manufacturer is under contract to pay royalties or whether it contemplates merely a plan by which the owners of patents would be required to permit their devices to be manufactured in a number of plants without the payment of royalties, has not been announced, but it is believed that the first example was not taken into consideration. The various builders of cars and locomotives submitting their bids were asked to state their profits for the last year, the previous year and the most profitable

year in their business, and other detailed costs as separated between material, labor and general expenses, together with a statement of the profit desired. They were also asked to express their attitude in case the government should furnish all materials. Later in the week the builders were asked to submit bids on 50-ton all-steel box cars in addition to the cars for which specifications had already been issued and bids will be asked later on refrigerator, flat, and general service cars.

The car builders were in session with Mr. Williams late Tuesday evening and adjourned to meet again Monday. The demands of the shipping board for priority in the use of steel may bring about a decision to decrease the number of steel cars and to use wood instead.

Locomotives

THE NEVADA NORTHERN is inquiring for a number of Consolidation locomotives.

THE PARIS, LYONS & MEDITERRANEAN has ordered 100 Mikado locomotives from the Baldwin Locomotive Works.

THE CENTRAL RAILWAY OF BRAZIL has ordered from the American Locomotive Company three Consolidation locomotives, weighing 165,000 lb.; one mallet (0-8-8-0) type locomotive, weighing 280,000 lb., and two Consolidation locomotives, weighing 167,000 lb. All these locomotives will be equipped with superheaters.

Freight Cars

THE DELAWARE & HUDSON is inquiring for 50 steel caboose underframes.

THE FINKBINE LUMBER COMPANY, Wiggins, Miss., is inquiring for 5 tank cars.

THE AMERICAN BRIDGE COMPANY, Pittsburgh, Pa., is inquiring for 108 50-ton trucks.

THE ACME PETROLEUM COMPANY, Tulsa, Okla., is inquiring for 25 to 50 tank cars.

THE ANACONDA COPPER MINING COMPANY, New York, is inquiring for 3 90-ton ore cars.

THE AMERICAN NITROGEN PRODUCT COMPANY, Seattle, Wash., is inquiring for 8 to 10 tank cars.

THE GREAT WESTERN CONTRACTING COMPANY, Kansas City, Mo., is inquiring for 100 to 200 tank cars.

THE HOUSTON RAILWAY CAR COMPANY, Houston, Tex., is inquiring for 25 to 50, 50-ton, 8,000-gal. tank cars.

THE NEW ORLEANS INDUSTRIAL ALCOHOL COMPANY, New Orleans, La., is inquiring for 18 40-ton 8,000-gal. capacity tank cars.

THE HAZEL ATLAS GLASS COMPANY, Washington, D. C., is inquiring for 3 to 4 8,000 to 10,000-gal. steel underframe tank cars.

THE EVANS-THWING REFINING COMPANY, Kansas City, Mo., has ordered 50 8,000-gal. capacity, 40-ton tank cars from the American Car & Foundry Company.

Signaling

THE BALTIMORE & OHIO has ordered from the Union Switch & Signal Company a Saxby & Farmer interlocking, 48 levers, for Outville, Ohio.

THE ATCHISON, TOPEKA & SANTA FE has ordered from the Union Switch & Signal Company a Saxby & Farmer interlocking, 16 levers, for Floyd, Mo.

THE PENNSYLVANIA LINES WEST will have a new interlocking at Smithville, Ohio, 32 levers; Saxby & Farmer machine, furnished by the Union Switch & Signal Company.

THE CENTRAL OF GEORGIA has completed the 9 miles of automatic signaling Hapeville to Atlanta, reported three months ago as under construction; and now has under construction 3 miles between Cuthbert, Ga., and Cuthbert Junction, single track, and one mile from Macon, Ga., to Macon Junction, double track.

Supply Trade News

Frank O. Bolton, chief inspector for Robert W. Hunt & Co., at the Edgar Thomson Steel Works, Pittsburgh, Pa., died in that city on April 1. He had been connected with Hunt & Co. for over 17 years.

D. B. Clark, who was formerly superintendent of the shell department at the American Brake Shoe & Foundry Company at Erie, Pa., is now general superintendent of the Watervliet Arsenal, Watervliet, New York. This Arsenal is the largest and oldest Arsenal in the United States and Mr. Clark has charge of the entire production of this plant.

The H. W. Johns-Manville Company announces that after April 1, its Youngstown, O., office will be located at 520 Market street. The same company has also found it necessary, owing to increased business on the Pacific coast, to open new offices at Tacoma, Wash. The office will be located at 1015 A street and will carry a complete stock of Johns-Manville products.

The rapid expansion of the business done by the **W. J. Crouch Company,** steel exporters, of 253 Broadway, New York, has necessitated the company's taking larger and better equipped quarters than those now occupied. It has leased for a period of years, the whole of the fifteenth floor at 68 William street, corner of Cedar street, where it will be located as and from April 29.

The Abell-Howe Company, 332 South Michigan avenue, Chicago, has been appointed representative of the Standard Malleable Iron Company, Muskegon, Mich., for the sale of malleable castings through its several offices located at Chicago, Pittsburgh, Cleveland and New York. The company has also been appointed representative of the Northern Engineering Works, Detroit, Mich., builders of electric overhead traveling cranes, electric hoists and foundry equipment, for the sale of these products in the territory tributary to Chicago.

Carnegie Steel Company Changes

Effective as of April 1, 1918, Colonel Henry P. Bope has resigned his position as vice-president and general manager of sales with Carnegie Steel Company to devote his time to private interests.

Colonel Bope was born and educated at Lancaster, Ohio, and devoted himself at first to stenographic reporting in the Ohio legislature. In November, 1879, he became connected with Carnegie Brothers & Co. and has remained continuously in the sales work of that company and its successors up to the present time. His period of service has thus covered the wide expansion of the use of steel and the growth of great commercial and business organizations, in all of which he has had a most active part. In addition to these commercial activities he has been active in the social life of the community.

He has been succeeded in his office with Carnegie Steel Company by William G. Clyde. Mr. Clyde was educated in the Pennsylvania Military College, at Chester, Pa. He first entered the employ of Ryan & McDonald, contractors of Baltimore, Md., was then associated with Robert Wetherill & Co., machinists and founders, and was later superintendent of the plate mills of the Wellman Steel & Iron Company, in Thurlow, Pa. His connection with the United States Steel Corporation and its subsidiaries dates from 1894 when he became superintendent of the plate mills of the Illinois Steel Company at South Chicago.

On the formation of the American Steel Hoop Company he became traveling salesman for that company in Chicago, and five months later was made manager of sales at Philadelphia where he remained until 1902, when, after the formation of the United States Steel Corporation, the American Steel Hoop Company was merged with the Carnegie Steel Company. For the next three years Mr. Clyde was traveling salesman for the Carnegie Steel Company at Cleveland. In September, 1905, he was made assistant general manager of sales at Pittsburgh in charge of the bureau of bars and hoops, which office he retained until his

present promotion. Mr. Clyde by the promotion has also become a member of the board of directors of the company.

While Mr. Clyde belongs to the younger generation of steel makers, his experience in the actual manufacture of steel, his wide experience in sales work, grasp of details, indefatigable energy and strength of character indicate that he will be a potent factor in the commercial activities of Carnegie Steel Company and the steel industry.

Charles L. Wood, long assistant to Mr. Clyde, has been promoted to be assistant general manager of sales in charge of the bureau of bars and hoops. Mr. Wood was born in Youngstown, Ohio, in the atmosphere of iron and steel manufacture. He was educated as a mining engineer at the Ohio State University and his first employment was with the Calumet Furnace Company, of Chicago, as chemist, followed by several years' experience in the practice of mining engineering in Colorado and the West.

Mr. Wood became associated with the American Steel Hoop Company on its formation, first in the order department. On the merger of the Hoop Company with Carnegie Steel Company his abilities caused his transfer to the sales department where, in the bureau of bars and hoops, he has long been Mr. Clyde's most efficient assistant. His promotion, therefore, comes as a logical recognition of his large experience in the sale of bar mill products and his wide acquaintance with their users.

Trade Publications

JOURNAL PACKING.—A new kind of car waste that is kept elastic and in contact with the journal, by means of interwoven brass spring wire, is described in a pamphlet issued by the Elastic Car Waste Company, Philadelphia, Pa.

FREIGHT CAR APPLIANCES.—The Wine Railway Appliance Company, Toledo, Ohio, has recently issued three circulars describing devices manufactured by the company for use on freight cars, A-40 Square Shaft Hand Brakes; A-41, Ratchet Lever Hand Brakes and A-50 Drop Door and Hopper Door Mechanism.

MILLING CUTTERS.—The "Stock List of Cutters," issued by the Cleveland Milling Machine Company, Cleveland, Ohio, under the date of March 15, 1918, contains a list of the different kinds and sizes of milling cutters made by that company. Various kinds of angular cutters, end mills, slotting and concave cutters are also listed.

TOOL HOLDERS.—Under the title of "How to Save Money on High Speed Steel," the Gisholt Machine Company, Madison, Wis., has issued a pamphlet showing three kinds of tool holders which may be used to advantage with high speed tool bits made by drawing out pieces of high speed steel which would otherwise have been scrapped.

DYNAMIC BALANCE.—The Norton Grinding Company, Worcester, Mass., has issued "A Treatise on Dynamic Balance" which will be of interest to all who do not understand the difference between the standing and running balance of machine parts which revolve at a high speed. The need of a running balance and a special machine to test it is very evident.

HEATING APPLIANCES.—The Macleod Company, 213 East Pearl street, Cincinnati, Ohio, has issued Buckeye Catalogue E, describing several appliances now manufactured by the company, which use crude oil in the heating of locomotive parts. These appliances include a Buckeye flood-light locomotive fire kindler, paint sprayer, locomotive tire heater and several kinds of furnaces. The Buckeye oxy-acetylene welding outfit is also illustrated.

CAR INSULATION.—The Union Fibre Company, of Winona, Minn., has issued a booklet, entitled "Insulation of Railway Equipment," which takes up in considerable detail the insulation of refrigerator and other cars. The front of the booklet contains an interesting account of the beginning and evolution of the refrigerator car and a development of the theory of insulation. Further on a description is given of the manufacture of Linofelt, which is composed mostly of flax fibre and is a good insulator. The back of the booklet is devoted to the discussion of a series of actual tests, conducted in 1908 by several railroads, with a view to determining the best practice in refrigerator car construction.

Railway Financial News

ATCHISON, TOPEKA & SANTA FE.—W. D. Hines has resigned as chairman of the board of directors. Carl R. Gray has also resigned as director.

CHICAGO, MILWAUKEE & ST. PAUL.—For the third time since the first of the year, the directors have voted to defer action on the regular common and preferred stock dividends.

DENVER & RIO GRANDE.—It is understood that this company will file with the director general of railroads an application for an advance of $2,500,000 to pay the interest, due February 1 and April 1, on its bonds. This represents about ninety per cent of the government guarantee for January, February and March.

ILLINOIS CENTRAL.—The State Public Utilities Commission of Illinois held a hearing on April 9 at Chicago to consider the petition of the Illinois Central for an order authorizing the acquirement of the capital stock of the Golconda Northern, a new road between Golconda, Ill., and Elizabethtown, Hardin county, about 12 miles.

NEW YORK, NEW HAVEN & HARTFORD.—Director-General McAdoo, after conference with officials of the New York, New Haven & Hartford, has announced that the government would lend the road $43,964,000 for one year at 6 per cent to enable it to meet a like amount of its one-year collateral trust notes which mature April 15. The funds for this purpose will be advanced out of the $500,000,000 appropriation in the railroad bill. The notes will be discounted through the Federal Reserve banks. The government will accept as security the same collateral as was pledged under the original issue, which consists of stocks and bonds of various subsidiary companies, totaling about $95,000,000 par value. Under the terms of the loan, the government reserves the right to sell any part, or all of the collateral, at such price as the Secretary of the Treasury may determine and apply the proceeds to the retirement of the notes. This action on the part of the government relieves the New Haven of the necessity of selling the collateral pledged under the original notes, the sale of which in the present market would involve a heavy sacrifice on the part of the road. Efforts to meet the notes at maturity, it is understood, met with but little encouragement in banking circles, and although an issue of preferred stock was authorized by stockholders it was thought that the full amount of the notes could not be readily absorbed in this way. The director-general also announced that the road would receive a rental sufficient to pay all fixed charges and leave a substantial surplus during the period of government control. In making the announcement, Mr. McAdoo said: "The director-general has investigated this subject carefully and has given due consideration to past and present records and earnings and to the future prospects of the New Haven system, whose gross operating revenues for the calendar year 1917 amounted to more than $85,000,000, exclusive of the earnings of several allied companies. Realizing the high importance of maintaining the physical and financial integrity of this railroad system, which controls so largely the entire transportation facilities of several leading industrial states, which are essential to the war-making functions of the nation, and whose lines are already being taxed to perform service which is now more important than ever, and having a proper regard to the security offered for the loan desired, the director-general has decided to extend the relief needed. The road will have the right to renew the loan for one year more on the same terms."

SAN DIEGO & SOUTHEASTERN.—In a recent order the Railroad Commission of California has authorized the San Diego & Arizona to purchase the capital stock of the San Diego & Southeastern, a 68-mile line running out of San Diego, California, and to issue bonds for $1,500,000 to cover the purchase.

WABASH.—Action on the dividend on the preferred stock A has been delayed.

Railway Officers

Executive, Financial, Legal and Accounting

H. Doescher has been elected secretary and treasurer of the Western Allegheny, with office at Pittsburgh, Pa., vice **C. A. Young.**

John T. Reid has been elected treasurer of the Charleston & Western Carolina, with office at Wilmington, N. C., succeeding **J. F. Post.**

E. C. Mann, auditor of disbursements of the Lehigh Valley, with office at Philadelphia, Pa., has been elected treasurer to succeed **C. J. Kulp,** deceased. Mr. Mann was born in 1868 at Altoona, Pa., and was educated in the public schools of his native town. He entered the service of the Pennsylvania Railroad as a clerk in the motive power department in 1896. Three years later he went to the Lehigh Valley as a clerk in the accounting department in the general offices at Philadelphia, Pa. He was steadily promoted through various positions in that department until in March, 1912, he was appointed auditor of disbursements which position he held at the time of his recent appointment as treasurer of the same road, with headquarters at Philadelphia as above noted.

E. C. Mann

C. C. Higgins, whose appointment as assistant to the vice-president of the St. Louis San Francisco, with office at St. Louis, Mo., was announced in these columns March 22, was born at Aurora, Ill. He graduated from the mechanical engineering course at the University of Minnesota in 1900, following which he entered the employ of the Chicago, Burlington & Quincy as a special apprentice. He remained with that road for five years, serving consecutively as assistant in the laboratory, roundhouse foreman and general foreman at various division points on the line. He was with the American Brake Shoe & Foundry Company, Chicago for the following four years, serving as sales engineer and salesman. Subsequently he was employed by the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., for three years, doing special work in connection with the bonus schedules in the mechanical department. After leaving the Santa Fe he became associated with J. W. Kendrick, consulting railway expert, Chicago, and during the following six years was engaged in making reports on various railroads in connection with valuation and rehabilitation. His present position with the Frisco was newly created and became effective March 15.

C. C. Higgins

A. W. Amis has been appointed auditor, of the Gulf & Ship Island and **G. R. Kemp** has been appointed claim agent; both with headquarters at Gulfport, Miss.

Edwin M. Kindler, chief clerk in the office of the secretary of the Union Pacific, at New York, has been elected assistant secretary of the Union Pacific and subsidiary companies.

J. B. Andrews, assistant secretary of the Denver & Rio Grande, with headquarters at Denver, Colo., has been appointed assistant to the president with the same headquarters.

E. H. Radcliffe, general accountant of the Lehigh Valley, with office at Philadelphia, Pa., has been appointed auditor of disbursements, with headquarters at Philadelphia, to succeed **E. C. Mann,** promoted.

E. E. Lloyd, auditor of stores and mechanical accounts of the Canadian Pacific, with office at Montreal, Que., has been appointed auditor of disbursements, vice **W. H. Mouler,** promoted, and **W. H. Langridge** succeeds Mr. Lloyd; both with headquarters at Montreal.

Lawrence Greer, vice-president and general counsel of the Western Maryland, with headquarters at New York, has been elected president and chairman of the board to succeed **Carl R. Gray,** who has been appointed director of the division of transportation in the United States Railroad Administration.

George T. Slade, first vice-president in charge of operation of the Northern Pacific, having been granted an indefinite leave of absence to enter military service, **John M. Rapelje,** general manager of the lines east, with office at St. Paul, Minn., has been appointed acting vice-president in charge of operation.

Operating

G. F. Morse has been appointed general superintendent of the Mississippi Eastern, with office at Quitman, Miss., vice **G. H. Fordham.**

L. L. Lamar has been appointed assistant superintendent of the Waycross & Southern, with office at Waycross, Ga., vice **F. S. L. Grundy,** resigned.

J. S. Reddock has been appointed superintendent of transportation of the Missouri & North Arkansas, with office at Harrison, Ark., succeeding **H. S. Baumgardner,** resigned.

E. E. Ramey, supervisor of trains of the Baltimore & Ohio, with office at Philadelphia, Pa., has been appointed supervisor of fuel consumption of the same road, vice **W. L. Robinson,** resigned.

A. M. Burt, chief engineer maintenance of way, of the Northern Pacific, with office at St. Paul, Minn., has been appointed acting general manager of the lines east of Paradise, vice **John M. Rapelje.** (See Executive, Financial, Legal and Accounting.)

Charles P. Angell, trainmaster of the New Castle division of the Baltimore & Ohio, with office at New Castle Junction, Pa., has been appointed assistant superintendent in charge of terminals, on the Pittsburgh division, with headquarters at Pittsburgh.

F. W. Taylor, superintendent of motive power of the Missouri, Kansas & Texas, with headquarters at Denison, Tex., has been appointed general manager, with headquarters at Parsons, Kan., succeeding **H. F. Anderson,** who was transferred to San Antonio, Tex., as superintendent of terminals of the Missouri, Kansas & Texas of Texas, effective March 1.

George Masten, who has been appointed superintendent of the Tennessee Central, with headquarters at Nashville, Tenn., as has already been announced in these columns, was born on December 6, 1874, at Lincoln City, Del. He began railway work in October, 1891, with the Atlantic & Danville, now the Norfolk division of the Southern Railway and subsequently served first as agent and then as despatcher. From 1898, to 1902, he was consecutively despatcher and chief despatcher on the Denver & Rio Grande and in 1904 became chief despatcher on the El Paso & Northeastern, now a part of the El Paso & Southwestern system, at Alamogordo, N. M. In 1906, he went to the Seaboard Air Line, as despatcher and

the following year was appointed chief despatcher on the Florida division. He subsequently served as trainmaster on different divisions of the same road until his recent appointment as superintendent of the Tennessee Central as above noted.

E. E. Regan, superintendent of the New London division of the New York, New Haven & Hartford with office at New London, Conn., has been appointed superintendent of the New Haven division, with office at New Haven, vice F. S. Hobbs; **F. M. Clark,** superintendent of the Old Colony division, with office at Taunton, Mass., has been appointed superintendent of the New London division, with office at New London, vice Mr. Regan, and **F. S. Hobbs** has been appointed superintendent of the Old Colony division with office at Taunton, vice Mr. Clark.

A. J. Dimaline, car accountant of the San Antonio & Aransas Pass, with headquarters at San Antonio, Tex., has been appointed division superintendent, with the same headquarters, and with jurisdiction over all employees of the transportation department, north and south of Kenedy, and including Kenedy Yard. **H. C. Franks,** general agent of the freight department, with headquarters at San Antonio, has been appointed assistant superintendent, with the same headquarters and with jurisdiction over the entire line. The territory of **J. H. Smith,** division superintendent, with headquarters at Yoakum, Tex., has been extended to Kenedy, exclusive of Kenedy Yard. The above changes were made following a grant of a leave of absence to **C. A. Maxwell,** division superintendent at Kenedy, to enter government service, and became effective March 27.

G. W. Nelson, whose appointment as superintendent of dining cars of the Northern Pacific, with headquarters at St. Paul, Minn., was announced in these columns on March 29, was born at Monroe, Iowa, on May 16, 1868. At the age of 17 he learned telegraphy and he entered the service of the Chicago, Rock Island & Pacific as an operator in July, 1887. He stayed with the Rock Island during the subsequent six years, being promoted to ticket clerk and later to agent. Later he completed a course at Hess Business College, following which he was employed for one year by G. M. Kenyon, railway supply broker, St. Paul, Minn. He entered the service of the Northern Pacific in 1894 as stenographer and operator for the superintendent of dining cars and in April, 1903, was appointed assistant superintendent of that department. Upon the appointment of H. J. Titus as superintendent in July, 1908, Mr. Nelson was placed in charge of the headquarters' office at St. Paul and upon the resignation of Mr. Titus, he was promoted to superintendent, as above stated, effective April 1.

G. W. Nelson

Engineering and Rolling Stock

T. Boles has been appointed chief engineer of the Ft. Smith & Western, with office at Ft. Smith, Ark., succeeding **B. F. Beckman,** resigned, effective March 1.

W. H. Winterrowd, assistant chief mechanical engineer of the Canadian Pacific, with office at Montreal, Que., has been appointed chief mechanical engineer in place of **W. E. Woodhouse,** who has resigned.

A. L. Roberts, mechanical engineer of the Lehigh Valley, has been promoted to master mechanic, with office at Wilkes-Barre, Pa., vice **M. R. Smith,** resigned. **W. I. Cantley,** assistant mechanical engineer, with office at South Bethlehem, has been appointed mechanical engineer; **J. P. Laux,** master mechanic, with office at Sayre, has been transferred to South Easton, Pa., vice **D. D. Robertson,** resigned, and **E. J. Kleinkauf,** general foreman at South Easton, has been promoted to master mechanic, with office at Sayre.

William Earle Barnes, whose appointment as general master mechanic of the Canadian Government Railways, with headquarters at Moncton, N. B., has already been announced in these columns, was born on July 24, 1879, at Shediac, N. B., and was educated in the public schools. He began railway work on April 20, 1899, as draftsman apprentice on the Canadian Government Railways. In 1902 he served as draftsman, and in 1906 first as machinist and later as draftsman. In October, 1907, he was appointed fitter and in January, 1909, again served as draftsman. In April, 1910, he was appointed enginehouse inspector and the following January became acting master mechanic. He was appointed master mechanic, in September, 1912; and since August, 1917, was acting general master mechanic until his recent appointment as general master mechanic as above noted.

W. E. Barnes

The offices of chief engineer and chief engineer maintenance of way, of the Northern Pacific, have been consolidated in charge of **H. E. Stevens,** chief engineer, with headquarters at St. Paul, Minn. (See Operating Officers.)

M. J. Powers, master mechanic of the Denver & Rio Grande, Colorado lines, with headquarters at Denver, Colo., has been appointed superintendent of motive power of the Colorado Midland, with office at Colorado Springs, Colo.

George A. Kirley, assistant signal engineer of the Boston & Albany, has been appointed signal engineer, with headquarters at Boston, Mass., vice **F. E. Whitcomb,** resigned to go with the Federal Signal Company; **E. I. Gardiner,** draftsman in the signal department, succeeds Mr. Kirley.

H. S. Wall, superintendent of shops of the Atchison, Topeka & Santa Fe Coast Lines, at San Bernardino, Cal., was appointed mechanical superintendent, succeeding **S. L. Bean,** deceased, with headquarters at Los Angeles, Cal., effective April 1. **A. B. Armstrong,** master mechanic at San Bernardino, Cal., has been appointed superintendent of shops, succeeding Mr. Wall, with the same headquarters, and **John Pullar,** master mechanic at Fresno, Cal., has been transferred to the Los Angeles division, with headquarters at San Bernardino, succeeding Mr. Armstrong, effective April 1.

Traffic

F. W. Robinson has been appointed general agent of the Chicago, Indianapolis & Louisville, at Milwaukee, Wis., succeeding **F. A. DeZotell.**

G. H. Dougherty, general agent of the Kansas City Southern, with office at Tulsa, Okla., has been assigned to other duties, and the general agency at Tulsa has been abolished.

J. A. S. Wallace, commercial freight agent of the Western Maryland, with office at Pittsburgh, Pa., has been appointed general western agent, with office at Chicago, vice **E. B. Webb.**

W. D. Burr, assistant general freight agent of the Chicago, St. Paul, Minneapolis & Omaha, with office at Minneapolis, Minn., has resigned and his office was abolished, effective April 1.

A. R. Malcolm, general agent for the Missouri Pacific,

at San Francisco, Cal., has been appointed acting assistant traffic manager, with office at New Orleans, La., succeeding **B. M. Flippin.**

J. P. Harkins has been appointed general agent of the Western Pacific at Stockton, Cal., succeeding **E. L. Gamble,** resigned to go with another company.

C. T. Slauson, foreign freight agent for the Missouri Pacific, with headquarters at Chicago, was promoted to manager of foreign freight traffic, with headquarters at St. Louis, Mo., effective March 25.

S. L. Parrott, general New England agent of the Chicago, Rock Island & Pacific, with headquarters at Boston, Mass., has been appointed commercial agent at St. Joseph, Mo., succeeding **J. I. Johnson.**

J. T. Wray has been appointed acting division freight agent, of the Central and Northern divisions of the Pennsylvania Railroad, with office at Erie, Pa., vice **E. S. Neilson,** who was division freight agent of the Central and Northern divisions.

E. S. Center, assistant general freight agent of the Atlanta & West Point and the Western Railway of Alabama, with headquarters at Atlanta, Ga., has been appointed general industrial agent of the Georgia Railroad, with headquarters at Atlanta, and his former position has been abolished.

E. R. Cobb has been appointed traffic manager and acting auditor of the Valdosta, Moultrie & Western, with office at Valdosta, Ga. The traffic and accounting departments have been removed from Albany to Valdosta, and the office of general freight and passenger agent at Albany has been abolished.

E. J. Carland, general agent of the passenger department of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at Duluth, Minn., was appointed acting general agent, succeeding **J. D. Mahon,** who was returned to Superior, Wis., in charge of freight and passenger traffic, effective April 1.

E. A. Donnelly, commercial agent of the Chicago, St. Paul, Minneapolis & Omaha, at Minneapolis, Minn., was appointed general agent of the freight department, with same headquarters, effective April 1. **T. J. Kenniff,** commercial agent at Minneapolis, has been assigned to other duties and the office discontinued, effective April 1.

Railway Officers in Government Service

Charles Barham, who has been appointed regional director under the National Food Administration, with headquarters at Atlanta, Ga., as has already been announced in these columns, was born on April 16, 1867, and began railway work in 1887 on the Richmond & Danville, now a part of the Southern Railway. He then served as stenographer to the commissioner of the Associated Railways of Virginia and the Carolinas, and then was soliciting freight agent of the Southern Railway at Richmond and later at New York. He subsequently was foreign freight agent of the same road at Norfolk, Va., until August 1, 1898, when he went to the Nashville, Chattanooga & St. Louis as chief clerk to traffic manager at Nashville, Tenn. From January, 1900, to September, 1906, he was assistant general freight agent, and then was made general freight agent of the same road, which position he held at the time of his recent appointment as regional director under the National Food Administration as above noted.

C. Barham

B. L. Swearingen, assistant general freight agent of the Missouri Pacific, has been appointed supervisor of oil traffic by the regional director of western roads, with headquarters at Kansas City, Mo.

John J. Sullivan, formerly in the office of vice-president and general manager of the Southern Pacific, and until March 1, 1918 general agent of the American Railway Association at Camp Cody, Deming, N. Mex., has received a commission as first lieutenant, and has been assigned to duty with the Thirty-sixth Engineers, at Camp Grant, Rockford, Ill.

Purchasing

G. H. Robison, general storekeeper of the Oregon Short Line, with office at Pocatello, Idaho, has been appointed acting purchasing agent in addition to his duties as general storekeeper, with headquarters at Salt Lake City, Utah, succeeding **A. E. Hutchinson,** deceased.

Obituary

L. D. Davis, supervisor of scales and weighing of the Baltimore & Ohio, with office at Baltimore, Md., died on April 2.

W. G. Neimyer, general agent for the Southern Pacific, with headquarters at Chicago, died in that city on April 4, aged 64 years.

Joseph H. Meglemry, assistant general freight agent of the Michigan Central, with office at Buffalo, N. Y., died in that city on April 2.

A. E. Hutchinson, general purchasing agent, of the Oregon Short Line, with headquarters at Salt Lake City, Utah, died in that city on April 3.

Dennis C. Zook, who was for the last 20 years master carpenter on the Western division of the Pennsylvania Railroad, Lines West, with headquarters at Fort Wayne, Ind., died on March 28, 1918.

Warren P. Taylor, traffic manager of the Richmond, Fredericksburg & Potomac, and secretary and treasurer of the Freight Claim Association, died on April 4 at Richmond, Va., He was born in September, 1868, and began railway work in 1884, as a clerk on the Richmond & Danville, now a part of the Southern Railway. In December, 1889, he entered the service of the Richmond, Fredericksburg & Potomac as chief clerk to the traffic manager, and since September 1, 1898 had been traffic manager of the same road. He was traffic manager also of the Washington Southern operated in connection with the Richmond, Fredericksburg & Potomac. He had served as secretary and treasurer of the Freight Claim Association since May, 1897.

S. H. Hardwick, who was passenger traffic manager of the Southern Railway from May, 1904 to June, 1915, died on March 26, at Montgomery, Ala. Mr. Hardwick served for several years prior to January, 1889, as general eastern passenger agent of the Virginia, Tennessee & Georgia Air Line, at New York. In August, 1889, he was appointed general passenger agent of the Georgia Pacific. From September, 1891 to June, 1892, he was assistant general passenger agent of the Richmond & Danville in charge of the Second division of the Central of Georgia. Then to January, 1901, he was assistant general passenger agent of the Richmond & Danville and its successor, the Southern Railway, at Atlanta, Ga. From January, 1901, to May, 1904, he was general passenger agent of the same road and then was appointed passenger traffic manager resigning from the latter position on account of ill health in 1915. He was then appointed general agent of the passenger department of the same road, with office at Montgomery, Ala.

MUKDEN-ANTUNG LINE CUT-OFF.—The South Manchuria Railway plans to construct a new ten mile line between Suchiatun on the main line and Chenhsiangtun on the Mukden-Antung Line in the next fiscal year.—*The Far Eastern Review.*